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EDITED BY ANDREW WYNTER, M.D.

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Diseases OF SPECIAL OCCUPATIONS.

No. I.

THE SHEFFIELD GRINDERS.

By JOHN CHARLES HALL, M.D., Fellow of the Royal College of Physicians, Edinburgh; Physician to the Sheffield Public Dispensary, etc.

[*Concluded from page 295.*]

C. THE SHEFFIELD GRINDERS' DISEASE.

IT remains to consider, lastly, in this, my fifth communication, the *post mortem* appearances presented by the lungs of those who have died from the Sheffield grinders' disease: I purpose making, also, a few observations on its treatment.

(*b*) *The post mortem appearances found in the lungs of those who have died from the Sheffield grinders' disease.* CASE IX. George Capper, aged 45, a razor grinder, was admitted at the Sheffield Public Dispensary, October 19th, 1855. He complained of difficulty of breathing, tightness over his chest, and some pain on the left side. He said he had worked at his trade since he was twelve years old. His father, a table-blade striker, died at the advanced age of 82; his mother died at 62. He was one of a family of twelve. "He could not remember that any of his relations had died from consumption, but they might have done, for anything he knew." He had led a very irregular life, had never been married, and had always been very intemperate. He was a good deal emaciated. He measured only five feet; his chest was thirty inches in circumference; and there was much less mobility on the left than on the right side. The respiration on both sides was unequal, and the expiratory murmur was prolonged. There was considerable dulness under both clavicles; he was very sallow; the stools were white; and the urine was high coloured.

A small blister was applied under each clavicle; he was ordered, during the day, an expectorant mixture; and he took, for ten nights, two pills consisting of a grain of ipecacuanha, two grains of blue pill, and six grains of the extract of taraxacum. Under this treatment, he rapidly improved; and he was desired to go into the country, and to take a dessert-spoonful of cod-liver oil three times a day, and to apply the croton oil liniment to his chest until the usual eruption was produced; and, as this died away, the embrocation was to be repeated, so that the skin might be kept more or less sore for six weeks. He was also ordered eight grains of the compound ipecacuanha pill every night, a good diet, and a pint of beer daily. He recovered sufficiently to resume his calling of a razor grinder; and twelve months elapsed before I again saw him. When he was again admitted, the disease had made rapid progress. I saw him again three months before he died. There was then great dulness under each clavicle; the respiration over those portions of the chest where it could be heard was hard and unequal; and a diffused blowing sound could be detected on the right side, below the nipple. Once or twice, on urging him to take as deep an inspiration as he possibly could, an interstitial creaking sound was produced. During the very cold weather we had at the end of January in the present year, he was attacked with pain in the left side, and with very great difficulty of breathing: he did not apply to any medical man for assistance, and he died on the 28th of January, 1857.

POST MORTEM EXAMINATION, made twenty-four hours after death, with the assistance of my friend and colleague, Mr. George Atkin. The body was considerably emaciated, but not so much as might have been expected in one who had for so many years been ill. On opening the chest, the lungs did not collapse, and there were evidences on the left side of the recent attack of acute pleuro-pneumonia which had proved fatal. Here the adhesions were easily broken down, and evidently but recent. The left cavity of the chest contained a few ounces of serum, and the pleura covering the lung in the same situation was coated with recently effused lymph. The middle lobe of the left lung was in a state of red hepatisation. On both sides there were extensive adhesions; these formed, at the apex of each lung, a cartilaginoid cap, from which it was impossible to detach the lungs entire. The whole of the superior lobe of both lungs was extremely dense, and of a black grey colour. The external surface was sprinkled over with small black spots; some as small as a large shot-corn, others as large in circumference as a sixpence. On cutting into the solidified lung—a task of no little difficulty—we observed similar bodies: here and there these were aggregated into masses of a large size; one near the bifurcation of the trachea, on the left side, was the size of a large egg. The bronchial glands were enlarged and blackened; several of them contained a good deal of gritty matter.

In the following woodcut, made from a drawing by Mr. Tuffen West, Mr. Orrin Smith has enabled me to present the exact appearances exhibited by a section of the superior lobe of the right lung of this man.

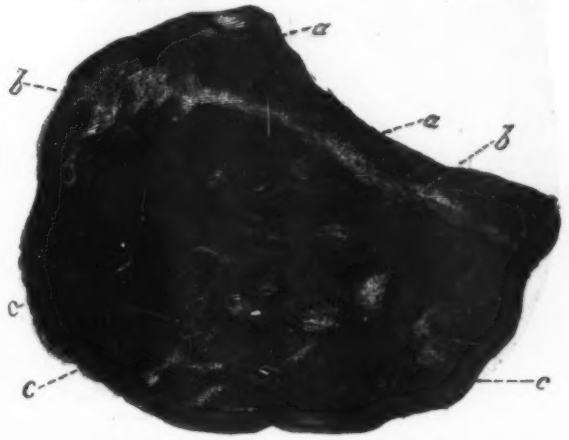

Fig. 3. Section of the lung of a razor grinder.

The peculiar dark spots, to which reference has already been made, will be seen at *a*; the white appearance seen at *b* is also evidently a result of chronic inflammation; enlarged bronchial tubes will be noticed at *c*.

The *post mortem* appearances of the bronchial glands were exactly similar to those seen in Fig. 4. It was sketched by Dr. Branson, from one of the bronchial glands of a grinder who had died in the Sheffield General Infirmary; and I am indebted to my friend Henry Jackson, Esq., F.R.C.S., the senior surgeon of that institution, for the use of the drawing from which the annexed woodcut has been taken.

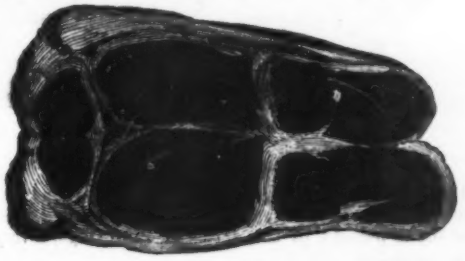

Fig. 4. Appearances frequently present in the bronchial glands of those who have died from the grinders' disease.

The heart was slightly enlarged; valves normal. The other organs of the body were not examined; permission having only been given to open the chest.

Microscopic Examination of the Lungs. I examined various portions of the lungs of this razor grinder, with very great care; and, although several gritty particles could be detected, I did not discover a trace of steel.

The general appearances of each section when examined, even with a very high power, were only such as might be expected in any ordinary case of chronic inflammation. In a case of such importance, however, I wished that, in addition to my own observations, my fellow Associates should have the benefit of the opinions of some of the first microscopists of the day. I accordingly sent a section to my friend Professor Bennett, of Edinburgh, and another section to my friend Dr. Lionel Beale. Dr. Bennett discovered for the most part "chronic exudation tinged with pigment", and fully agreed with me as to the nature of the lesion. Dr. Beale writes: "My impression is that the black granular matter is situated in the smaller bronchial tubes upon the mucous membrane. Much of it is certainly contained within cells; or, perhaps, more correctly speaking, is aggregated into masses having all the characters of cells. At the same time, I think it very likely that some of it is in the vessels, and consists, as you suggest, of altered blood."

I am again indebted to my friends, Dr. Branson and Mr. Henry Jackson, for the use of the beautiful drawings whence the next two woodcuts have been taken.

Fig. 5. Section of the lung of a fork grinder.

The above engraving very accurately represents the appearances frequently seen in the lungs of those who have died from the grinders' disease. We observe that portions of the lung are infiltrated with toughly solid exudation, in the state of induration matter. When cut, portions of it resemble new India-rubber in colour, and they are quite as tough and difficult to cut.

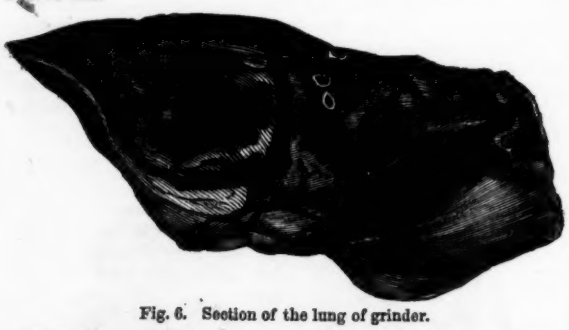

Fig. 6. Section of the lung of grinder.

Of the general appearances observed in the lungs of those who perish from this disease, Mr. Orrin Smith's skill has enabled me to present, in this series of engravings, a very correct representation. We observe:—

1. The little black spots on the surface and throughout the substance of the lungs.
2. Dilatation of the bronchial tubes.
3. Enlargement of the bronchial glands. On making a section, they are often seen, as in Fig. 4, of a greyish and blackish colour; for the most part of a very firm consistence. In other cases, they are soft. Calcareous matter is often present in them.
4. Large masses, varying in size and in colour, in different portions of the lungs.
5. Adhesion of the pleuræ.
6. Inflammation of the lining membrane of the bronchi, trachea, and larynx.
7. Frequent enlargement of the heart, disease of the liver, and a granular condition of the kidneys.

These *post mortem* appearances naturally suggest a few observations, which, remembering, as I do, the great length to which these articles have already extended, shall be condensed as much a possible.

1. *The black spots on the surface and throughout the substance of the lungs.* It may be well to remember, in considering the question of exudation in the lungs, that since the beautiful injections of Adriani and of Rossignol it has been known that the bronchial arteries and veins may be filled from the pulmonary veins, and the latter again from the bronchial arteries; the intercommunication of the two systems is thus demonstrated, and we have been thereby taught how disturbances of the circulation in one system, may account for those which are witnessed in the other.

Andral has remarked, "that black discoloration of the lung with augmentation of its consistence, is nothing more, in a great number of cases, than black pulmonary matter, with the superaddition of a morbid induration wholly independent of it. In other words, the lung affected with chronic induration blackens in the same way that an intestine does that is similarly affected, and passes by degrees from red to brown, and even to the black colour."

The same distinguished pathologist speaks also of four forms of melanosis; 1, Masses, incysted or not; 2, Infiltrated in different tissues; 3, Layers on the unattached surface of membranous organs; 4, Liquid. The fourth form was rejected by Laennec, who regarded melanosis as a tissue. These masses in the Sheffield grinders vary in size; some are about the bulk of a small bean; some are about the size of a large egg. I would remark, however, that much of the induration observed in the lungs of the grinders does not depend on the melanotic deposition, but simply on chronic inflammation. With regard to the colour of chronic induration it is sometimes red, yellow, iron grey, brownish, or black. The colour is in some degree of an accidental character, dependent as it is on the presence, in variable proportions, of blood, and of black or dark blue pulmonary matter. Dr. Gregory, of Edinburgh, found the black lungs of a collier to contain coal, which, on destructive analysis, yielded carburetted hydrogen and the other usual products.

In the section of lungs from which fig. 3 was taken, some of the vessels were pervious and the arrangement of the capillaries natural. The walls of the air-cells were thicker, and the elastic fibres more abundant than in a perfectly healthy condition of the lung. In many reptiles which have been kept without food, and with insufficiency of air, the vessels of the lungs and other organs are found to contain similar dark matter.

2. *The enlargement of the bronchial glands* is clearly the result of the chronic inflammation which has been set up in the pulmonary tissue by which they are surrounded. The black pigment which is so often found in them in considerable quantity (fig. 4) does not, so far as I am aware, differ from that generally found in the pulmonary parenchyma. That it bears (as Dr. Sieveking has shown) a close relation to the defective oxygenation of the blood, is manifest from the normal tendency to the deposit being greater in proportion to the advance of life; and, in the attacks of chronic inflammation to which the Sheffield grinders are so liable, it evidently accumulates in considerable quantities.

3. *The cartilaginoid capsule* at the apex of the lungs on both sides is by no means an unusual occurrence. When placed under the microscope the deposit was found to be of a fibrous or, as Lebert has termed it, chondroid character. If the result of former inflammation of the pleura, it involves the free surfaces of the membrane with which it closely combines, which was the case here; if arising from subserous congestion, it is found in the subserous tissues and in the membrane itself.

The whole question of chronic pneumonia and its results,

including hypertrophy of the intervesicular tissue, owing, probably, to a deposit in them of an albuminous character, involves considerations of the highest importance, and demands a careful and patient investigation.

Dr. Williams mentions, in his *Principles of Medicine*, a chronic form of pneumonia in which the hepatised portion, owing to the thickening of individual vesicles, assumes an oolitic aspect. In this form of pneumonia he is of opinion that thoracic consumption may commence without the pre-existence of tuberculous disease.

(*c.*) *Treatment of the Sheffield Grinders' Disease.* This disease requires to be treated on general principles. All causes of irritation must be removed, attacks of inflammation must be subdued as they arise, and every care should at all times be taken to keep up the strength of the patient.

The Sheffield grinders' disease, in the first instance, is simply bronchitis, arising from the irritation produced by the presence of fine particles of stone and metal in the tubes. Removal for a time from the wheel, and a residence in the country, at least during the early stages of the disease, is an essential step to be taken; and the man should resolve for the future to work only in a hull where the revolving fan properly adjusted carries off the greater portion of the irritating particles.

In a grinder somewhat advanced in years, and in whom the disease has made considerable progress, when, in addition to dilatation of the bronchi, the surrounding portion of the lung is not only condensed by pressure, but very often also locally consolidated by chronic pneumonia, it often happens that an acute attack of bronchitis supervenes on the chronic disease. Such a case requires to be treated with the greatest possible caution. The patient, under such circumstances, broken down in constitution, does not die from the inflammation, but from the large accumulation of mucopurulent secretion thrown out by a congested surface. This copious secretion, which the patient has not sufficient strength to throw off, is the cause of death, the brain and tissues becoming poisoned by venous blood. Strong stimulating embrocations are here required to the chest, and doses of the sesquicarbonate of ammonia and of chloric ether should be given at short intervals.

With regard to the treatment of the chronic form of bronchitis, so common amongst the grinders of Sheffield, much will depend on the peculiar complications each case presents. The addition of a dilated state of the tubes to chronic inflammation of their mucous membrane, adds much to the difficulties of treating with success a patient so affected. In the great majority of such cases that I have seen, both in private and dispensary practice, the sputa have been very abundant, solid, opaque, and, for the most part, purulent. The face is bloated, the lips are blue, the countenance is generally livid; such symptoms arise from the altered state of the mucous membrane preventing the proper aëration of the blood. When the disease is of long standing, it is not uncommon to find enlargement and thickening of the right ventricle.

Blisters applied to different parts of the chest at intervals, and repeated dry cupping, are useful in many cases. In the chronic forms, counter-irritation, especially with the croton oil, or the turpentine and strong acetic acid liniments, should always be employed. The expectorant medicines to be selected must depend upon the condition of the discharge from the bronchial tubes. When the expectoration is excessive, balsam of copaiba and pyroxylic spirit are medicines of considerable value; and the inhalation of the vapour of tar, or of creasote, or of chlorine, much diluted, has unquestionably a tendency to reduce the irritability of the mucous membrane, and to lessen the quantity of its secretion.

Surrey House, Sheffield, April 13th, 1857.

ERRATUM.

[In Dr. J. C. Hall's paper on the Sheffield Grinders' Disease, in the Journal of last week, by an error in revision, the woodcuts were unfortunately transposed; the description appended to Fig. 1 belonging to Fig. 2, and *vice versâ*. To non-microscopists this error might prove embarrassing; and, therefore, to prevent any possibility of mistake, we again append the woodcuts illustrative of the sputa to this the conclusion of his elaborate articles on the Sheffield Grinders' Disease, with a correct description to each. Editor.]

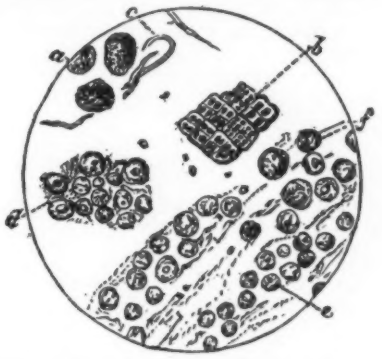

Fig. 1 contains the sputa of a table blade and file grinder. (*a*) cells containing pigment; (*b*) sarcina ventriculi; (*c*) curled elastic fibre; (*d*, *e*, *f*) pus and mucus cells; some very transparent, shewing a distinct nucleus; others (*f*) with pigment.

Fig. 2. Sputa of a fork grinder (dry). (*a*) epithelium from the mouth; (*b*) epithelium from the fauces; (*c*) silicious particles; (*d*) metallic particles; (*e*) blood-corpuscles; (*f*) pus and mucus cells.

Illustrations of HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

ST. MARY'S HOSPITAL, MANCHESTER.

BELLADONNA IN INCONTINENCE OF URINE.

Under the care of G. B. Masfen, Esq.

M. B., aged 5, who had been under my care at various times since February 6th, 1856, suffering from incontinence of urine, under a variety of treatment, and with, at the best, very trifling amendment, was again admitted on the 28th of January 1857. He is a delicate looking boy, but apparently healthy in all other respects than the disease, for which he was under treatment. He had rarely passed a night, that his mother could recollect, without wetting his bed; and the treatment which had appeared to do him most good, was abstinence from drink in the after part of the day; but this could not be successfully carried out in warm weather.

I prescribed an anodyne alkaline mixture, with an occasional drastic aperient, till having seen Mr. Brooke's case in the Journal of February 21st, I ordered, on February 28th, one-twelfth of a grain of extract of belladonna to be taken three times a day, when a marked improvement immediately commenced, which continued till after having the medicine for twelve days there was no more appearance of the symptoms. He continued under the same treatment till March 21st, when I discharged him apparently cured. I shall keep this case under notice, and, should any relapse occur, shall not fail to place it on record.

While on this subject, I may mention that I wrote to a sometime patient of mine, who had consulted several eminent practitioners in various parts of the kingdom, and who seldom passed a night without wetting his bed, from birth to the age

of sixteen, to suggest this remedy to him. He replied as follows:—"The weakness with which I was afflicted so long has at last left me entirely.... Very likely the sea bathing at Boulogne did a great deal towards a cure, as I was not subject to it after I took a bath three times a week at six in the morning."

ST. GEORGE'S HOSPITAL.

I. POPLITEAL ANEURISM: LIGATURE OF THE FEMORAL ARTERY AFTER THE UNSUCCESSFUL APPLICATION OF PRESSURE: GANGRENE: AMPUTATION OF THE THIGH.

Under the care of T. Tatum, Esq.

[*From notes by* F. Wintle, Esq., *Surgical Registrar.*]

[*Continued from page* 268.]

The case reported in the number of this Journal for April 4 has, unfortunately, not turned out successful. We shall proceed with the history of the case, and give an account of the appearances observed on dissection of the limb. The main features of the case up to the time of our last report were, that pressure had been employed for three weeks with the effect of entirely checking the pulsation of the tumour, which, however, enlarged and began again to pulsate after the suspension of the pressure for a week; that pressure was reapplied for six days, with great care as to its direction and proper adjustment, notwithstanding which the tumour continued to increase, and that on the day before the operation a sudden attack of sharp pain, and the rapid increase of the swelling, induced the belief that the aneurism had burst into the cellular tissue. The artery was tied on March 26; and here it may be noticed that the vessel, when it was taken up, looked of a redder colour than usual. On the following day, the patient had had no sleep, and was feverish. There had been no sickness after the chloroform; the foot and leg were of good temperature.

On the 28th he was better, and the extremity still retained its natural appearance and heat; but on the 29th, a little blackness was observed over the ends of the first and second toes, which extended to their roots. On March 30th and 31st, patches of discolouration extended up the leg, and the superficial veins, both of the leg and thigh, began to show distinctly through the skin. On the 1st April, as the whole leg below the knee was discoloured, and there was considerable œdema of the thigh, it was impossible to defer the removal of the limb. During all this time he had been ordered liberal diet and stimulants, and every attention had been paid to keeping up the local temperature.

At the amputation, which was performed by the circular operation at the lower third of the thigh, there was much hæmorrhage from numerous vessels which had enlarged subsequently to the ligature, and the vessels were hard to secure, as the muscles seemed to be much infiltrated and their colour and consistence altered. The patient bore the operation well, however, had no sickness after the chloroform, and ate a good dinner four hours afterwards. An incision was made on the outer side of the upper part of the thigh to relieve the infiltration of the cellular tissue.

On examination of the amputated limb, all the muscles of the leg and foot were found to be sloughing. This extended down to the interosseous membrane on both aspects of the limb. The artery and vein had been divided just after their passage through the opening in the adductor magnus muscle. The coats of the artery were very much injected above the aneurism, so that its colour here presented a striking contrast to that of the vessel below the tumour; the lining membrane also appeared rough, as if from effused lymph. The artery was quite empty, except for a few shreds of loose coagulum. The aneurism was of great size, about as large as a fœtal head, and its sac was extremely thin. Where the vein and the sciatic nerve passed over it, it was so very attenuated that by the separation of these structures (which were much bloodstained) the clot was exposed; but this was most probably accidental, and it appeared most likely that the sac, though extremely stretched and thinned, had not been lacerated. It contained hardly any laminated fibrine, but was filled with soft, loose, dark red clot, of the colour and consistence of black currant jelly. The arteries below the aneurism were traced for some distance down each aspect of the leg; all seemed natural. As to the situation of the aneurism with respect to the artery, the disease had involved the whole calibre of the vessel, so that the artery opened above and below into the large spherical sac; the latter projected considerably towards the knee-joint, thereby occluding the artery. The joint itself, however, was quite natural. The vein was next examined. It was stretched tightly over the back of the swelling, and at the upper part, where the amputation had divided it, was almost obliterated by a plug of adherent and decolorised fibrine. This was so closely adherent to the walls of the vessel (which were themselves somewhat thickened at this part), that it was very difficult to dissect it away. The vein was not absolutely obliterated at any point, as, on making pressure upward, a little of the serosity of the blood was seen to exude between one part of its walls and the clot. The latter was traced downwards for about an inch and a half. Below this point, the veins, which were followed down with the arteries below the middle of the leg, were quite natural. The sciatic nerve was also raised by the swelling, but not altered in shape or size. One or two branches of the popliteal artery in the ham were traced; they seemed not to have been enlarged beyond the natural size.

The man has been doing very well since the operation up to the last note (April 14); the ligature had not come away from the femoral artery.

Remarks. This case is a remarkable instance not only of the failure of the compression treatment, in a case where there seemed every antecedent probability of its success; but even, if the appearances on dissection have been rightly interpreted, of the mischief which may sometimes (rarely indeed, it is true) accompany its employment. For the failure of the treatment it is not very easy to account, as the case was watched as closely, and the treatment persevered in as sedulously as in other cases where it has been rapidly successful; nor was there anything in the size of the tumour, or any constitutional irritability of the patient, to render want of success probable. If it be alleged, that the attendants might have neglected their duty in applying the compression properly, or that it might have been too soon omitted, this still seems inconsistent with the fact, that afterwards, when the pressure was resumed and more closely watched, the aneurism, nevertheless, went on steadily and rapidly growing. It is, indeed, open to conjecture, that the shape of the swelling was unfavourable for the treatment by compression; *i. e.*, that the free communication of the artery above and below with the sac prevented coagulation in the latter, except under the total stoppage of the circulation for a time, which follows the ligature, but which is never produced by compression. As to the harm which resulted from the treatment, it seems clear that the inflammation—of which traces were observed in the artery—and the plugging up of the vein from the same cause, must have had their origin in the irritation so induced. The colour of the artery, at the point of application of the ligature, induced Mr. Tatum to predict inflammation of that vessel; and the clot which was found so completely decolorised, and so firmly adherent to the walls of the vein, could not have been produced in the six days which intervened between the ligature and the amputation, even if there had been anything in the operation of tying the femoral artery to account for such a result. Nor could this phlebitis have been a result of the pressure of the aneurism in the ham, since the clot was much thicker at the part divided in the amputation, and rapidly diminished, as it was traced downwards till, in the middle of the popliteal space, it ceased altogether. Higher up (that is, in the stump), it is very probable that the vessel was altogether occluded, and the only cause which is at hand to account for such a result, is the application of pressure on the vessels in the thigh. Why then, it may be asked, did not the leg slough before the application of the ligature? Probably because, however much the main vein might have been blocked up, the force of the heart and arterial circulation was still sufficient to carry the blood through the collateral channels; while, on the cessation of this *vis a tergo*, consequent on the obliteration of the artery, the venous circulation became also suspended, and the blood stagnated in the superficial as well as in the deep veins. This latter effect was observed, and is noted in the history of the case. But also, there can be little doubt that the occlusion of the veins had been progressive, and was advancing during the days subsequent to the ligature.

As to the severe attack of pain, which occurred on the day before the ligature, this was most likely due to the sudden increase of the contents of the sac, and its consequent pressure on the sciatic nerve. It will be noticed, that this nerve was not flattened or much stretched, and had not, therefore, been long exposed to the pressure of the tumour, but was found so closely united to it at the dissection, that it was a question whether it had been in contact with the blood or no.

The patient appears at present to have a fair chance of recovery,

and the case is so far complete. If by any misfortune it should turn out less happily, and if any appearances should be then observed in the vessels calculated to throw any further light on it, a supplemental note will be given.

II. PYÆMIA AFTER AMPUTATION OF THE LEG, RAPIDLY FATAL: INFLAMMATION OF SUPERFICIAL VEINS NOT INCLUDED IN THE LIGATURES: ESCAPE OF THOSE SO INCLUDED.

Under the care of H. C. Johnson, Esq.

[*From notes by* F. Wintle, Esq., *Surgical Registrar.*]

Peter B., a middle aged man, was admitted March 17th, under the care of Mr. Johnson, on account of disease of the right ankle of sixteen years duration, attributed to a slight accident. He was in good general health, but looked pale and sallow. He had been a patient in this Hospital on three previous occasions, but had derived no benefit from the treatment, and was now very anxious to have the leg removed, as the necessity he was under of resting the knee always on a wooden leg interfered much with him in his occupation, that of an agricultural labourer. The amputation was performed on April 2nd, at the junction of the lower and middle thirds of the leg, as the tibia was known to be diseased, and it was thought unsafe to amputate at the ankle, under the uncertainty as to the extent of that disease. The result showed the soundness of this opinion; for, on examination of the removed limb, besides extensive disease of the ankle, and ulceration of the cartilages between the astragalus and os calcis, a cavity was found leading up the shaft of the tibia for more than an inch, and communicating with a piece of necrosed, but not loose, bone in the centre of the cancellous tissue. Nothing remarkable occurred at the amputation. There was little hæmorrhage. The patient passed a tolerable night, and had no sickness from the chloroform, but was a little feverish next day. This, however, passed off, and he was going on well; but on the evening of April 4th hæmorrhage came on from a small vessel near the tibia, which had to be tied. During the same night he was very restless, and suffered from cold sweats; his face was anxious, and his complexion more sallow than usual. His tongue, however, was clean, and his functions regular. During the night of the 5th, he had three distinct attacks of severe rigors, and when seen in the morning of April 6th his face was yellow, and he was scarcely sensible. At about 1 p.m. on April 6th he became violently delirious, and died in a quarter of an hour from this time.

On *post mortem* examination the skin over the whole body was found extremely yellow. All the viscera, including the brain and its membranes, were found perfectly healthy, except that the liver showed traces of fatty degeneration, and that the kidneys were large, coarse, and soft in texture. The appearance of these latter organs, however, was not decidedly that of disease. On examining the stump, a good deal of diffused suppuration was found in the subcutaneous cellular tissue, and infiltrating the muscles. There were four ligatures still in position. One of these was tied on the anterior, and another on the posterior tibial artery, a third on one of the veins accompanying the anterior tibial, and the fourth embraced a smaller artery (probably the peroneal) and its venæ comites. None of the veins so tied were in the least degree inflamed, but the short saphenous vein was standing out in the cellular tissue, its walls thickened, and its mouth patulous from adhesion to the neighbouring parts. On laying it open, purulent fluid was found in it, but no clot. The femoral and iliac veins were distended with dark blood, and their lining membrane, as well as that of the arteries and of all the cavities of the heart, was deeply stained by imbibition, but there were no marks of inflammation. The blood showed, under the microscope, numerous bodies, having all the characters of pus-globules.

Remarks. This case is cited as one of the most rapidly fatal on record, and as having some bearing on the question of the mode of origin of pyæmia. It will be observed that death occurred before the falling of the ligatures, and that thus an opportunity was given of observing the vessels included in the latter, and their condition. As to the former point, every one must have come to the conclusion that very few amputations are performed in which some veins, large or small, are not tied with their accompanying arteries; and it is frequently necessary to tie up large veins, such as the femoral, on account of regurgitating hæmorrhage: but how seldom is any bad effect seen to follow on this proceeding. In the present instance the veins tied were perfectly natural both as to their walls and contents, while the superficial vein which had not been tied was much inflamed, and contained some pus, apparently secreted by its lining membrane, or perhaps really inhaled, as the old term was. It has been sometimes objected to the use of this term "inhalation", that no force is present by which inhalation can be produced. This, however, is not so self-evident as has been sometimes supposed. The vein is, no doubt, after the amputation, collapsed and empty. When inflamed, as a consequence of external phlebitis, and adhesion to the thickened cellular tissue in its neighbourhood, it is found, as in this case, round, rigid, and patulous. Hence a true distension of its calibre must have taken place, and the space so gained must be filled by something. This something will probably be blood drawn from the next branch below the valves, or the fluids of the stump, attracted up from its open mouth. Thus the passage of pus into the vein by a process truly resembling inhalation appears, theoretically at least, possible enough.

The case before us is worthy of note also, from the extreme rapidity with which death followed the first appearance of the symptom. No suspicion of pyæmia could have occurred before April 4th; nor was any distinct symptom noticed till the night of April 5th,—not much more than half a day before his death. It is true, indeed, that he had a suppurating wound before the amputation; but as there were no more symptoms from this, at the time of the operation, than there had been for fifteen years before, the supposition that the pyæmia was consequent on the original disease, is perfectly gratuitous.

ST. MARY'S HOSPITAL.

CASES OF DISEASE OF THE LIVER.

Under the care of J. Alderson, M.D., and T. K. Chambers, M.D.

[*From Notes by* M. Farrant, Esq.]

Case I. Ann F., aged 28, was admitted Nov. 25th, under the care of Dr. Chambers. She stated that, about three months previously, she had been seized with sickness, and pain in the back and hepatic region, increased by taking food, which was always followed by vomiting in about a quarter of an hour. This used to subside soon, and then leave her pretty well till the next meal. During the previous three weeks, this pain had been aggravated, and followed by a swelling about two inches to the left of, and four inches below, the xiphoid cartilage. She had vomited blood occasionally during this time, but not in great quantity. The skin was of a deep yellow colour, increased in intensity as the pain and swelling subsided. On examination, the swelling was found to be resonant on percussion, and appeared attached to the diaphragm, moving on inspiration. The finger could not be passed between it and the ribs. She was ordered milk and farinaceous food, with lime water and a grain of acetate of morphia every night. Under this treatment, she improved for some short time; but, as the sickness and pain recurred, she was ordered, on December 6th, to take a powder containing pepsine, with a mutton chop for dinner. The yellow tinge had by this time increased, and bile was found in large quantities in the urine. At first the mutton chop caused pain, but not sickness; and, after a few days, was taken without any ill effects following. She began to improve in strength and appearance. This favourable change did not, however, last long; for, in the middle of December, the appetite began to fail, so that she could take hardly any meat, but still managed to retain it on the stomach with the help of the pepsine. She began to be more restless, and to lose flesh and strength. She was now ordered a mixture containing muriatic and prussic acids; but this seemed rather to produce vomiting, and was omitted. The vomiting now recurred, especially after taking solids. Some temporary relief was obtained by blistering, and mercury exhibited till the gums were slightly touched. Examination of the region of the liver now showed dulness extending to about three inches below the tenth costal cartilage. The structure felt harder than natural, but no nodulation was perceptible. The pain here and in the epigastrium, on pressure, seemed diminished; sharp lancinating pain, however, occasionally occurred in the hepatic and gastric regions. She lost flesh and strength rapidly; the abdomen became distended and tympanitic; and she died January 5th.

Post mortem examination showed the stomach universally distended, reaching down to the pubes, and covering the whole of the abdominal viscera: it was filled with fluid resembling coffee-grounds, and there were patches of extravasation here and there beneath the mucous membrane. The liver was large and dark; the gall-bladder was quite obliterated by the deposition in this part of the liver of a large scirrhous mass,

extending across the longitudinal fissure into the left lobe, which had almost made its way through the substance of the organ to its upper side. This mass was as large as the fist, and adhered firmly to the first and second parts of the duodenum. On both surfaces of the diaphragm (but to a less extent on the upper), between the layers of the omentum and mesenteries, and beneath the peritoneum, visceral as well as parietal, there was found everywhere a deposit of small hard tuberculous masses, the microscopic section of which resembled exactly that of the larger mass in the liver.

REMARKS. This case appeared of interest, as showing how closely the symptoms of disease of the liver sometimes simulate those of organic disease of the stomach: in fact, the cause of the most prominent symptoms was the same in this case as in cancer of the pyloric end of that viscus; viz., pressure obstructing the passage of aliment into the duodenum. The history of the case also shows that partial relief may be obtained, even in these circumstances, from the more rapid digestion of the food by means of pepsine; and may serve as an encouragement to the trial of this drug as a palliative in cases where, from the failure of strength, it is desirable to give animal food, while the irritability of the stomach causes its rejection when administered in a fluid form.

In connexion with this case of disease of the liver, short notes are appended of a remarkable tumour which was lately observed at the same hospital, having its origin apparently in a hydatid cyst; but where, from the solidification of the external layers, the usual diagnostic signs of hydatids were entirely absent.

In this case also the fatal result seems to have been due as much to the renal as to the hepatic disease. It is merely mentioned as illustrating the difficulties which may be experienced in diagnosing a pretty common ailment, and as an interesting description of the condition at which a hydatid cyst may arrive.

CASE II. Harriet G., aged 28, was admitted November 27th, 1856, under the care of Dr. Alderson. She had been ill about two months, suffering from great pain in the left side of the thorax, and in the liver, with inability to stand from weakness. The menses had been suppressed for two years. Her countenance was anxious, eyes prominent, skin jaundiced. She complained of bearing down, and of constant desire to evacuate the bowels; and seemed to have partly lost power over the sphincter. She had suffered from diarrhœa for some time, and was much reduced, with anxious face, parched lips, and dry tongue. The abdomen was dull to percussion as low as an inch below the umbilicus: pressure did not produce pain.

The treatment consisted merely in the exhibition of tonics and support, and in checking the diarrhœa by means of astringent medicines. On December 1st, she was attacked with rigors; the tumour of the abdomen began to be tender to pressure; and she lost strength rapidly, dying on December 3rd of exhaustion.

On *post mortem* examination, the thoracic viscera were found healthy, except that one of the bronchial glands was enlarged and distended with pus. The liver filled the left hypochondrium, and extended down into the iliac region; thus the left lobe was greatly enlarged. On the right side, at the upper and posterior part, a large cyst was found, projecting into the liver, and occupying nearly half the right lobe. It was adherent to the diaphragm, and overlapped by the substance of the liver, the margins of which surrounding it were irregular and dentated. The cyst had a lobulated appearance, one portion being in front, one posterior, and one along the outer margin. On cutting into the cyst, an hydatid escaped. The cyst contained also a quantity of bright yellow fluid, which was inodorous, and exhibited, with strong sulphuric acid, the reaction of bile. The cyst-wall was dense and fibrous, and lined by a gelatinous looking substance, arranged in concentric layers, very soft and friable. The anterior lobule was continuous with the posterior, but the outer one was separate; it contained the same substance as the other, but of a different colour, being of a bright green; it was also much firmer and more tenacious, and appeared to be the older growth. The substance of the liver was very pale, hard, and bloodless. The weight of the liver and cyst was 6 lbs. The gall-bladder was half full of fluid bile. The kidneys were very large, the right weighing 8 oz., and the left 10½ oz.; they were surrounded with much fat, and the cortical part was almost replaced by yellow fatty matter, the medullary substance also disappearing in places. The spleen presented a number of small abscesses scattered through its substance.

Original Communications.

SALARIES TO SCIENTIFIC MEN.

By HENRY W. RUMSEY, Esq., Cheltenham.

IN a paper published in this JOURNAL for April 4th, I gave an outline of the manner in which I considered that the position of science and its cultivators might be improved through the agency of Government. A position totally different from mine has been assumed by Dr. J. E. Gray, of the British Museum, in his reply to the question to which reference was made in my former paper as having emanated from the British Association for the Advancement of Science. His opinion is, that "the position of science will be best improved by its being left entirely unfettered by any interference on the part of Government or of the Legislature": and he further deprecates any direct action of the Government in regard to the position of the cultivators of science. He also would "regret to see the number of scientific offices under the Government increased"; but he thinks it highly desirable (at least, before an increase is made) that "scientific men now holding office under Government, or under private societies, should be fairly remunerated for their labour".

As I conclude that Dr. Gray's opinions are open to general remark, I shall proceed to offer some criticism on them.

While I fully admit the importance of the facts whtch Dr. Gray adduces with regard to the low and inadequate rates of remuneration awarded to the officers of scientific and literary institutions in England; and while I agree with him that the strange discrepancy here existing between the salaries of highly qualified scientific *employés* and those of officers in the civil service is anything but creditable to us as a nation; I confess that it appears to me that Dr. Gray has presented but a partial and limited view of a large question, which presses daily with increasing force upon public attention, and must, at no distant period, be fairly met by the Legislature.

Now, in my opinion, it is not meeting this question fairly, to appeal to the prejudices and self-complacencies of Englishmen against foreign arrangements for the promotion and endowment of science—especially when such an appeal is calculated, if not intended, to defeat rational and feasible projects for the formal recognition of science in the administration of our own public affairs.

Dr. Gray's assertion, that science has attained a superior position and greater practical importance in England than in any other European state, seems not to be substantiated by the observations of learned foreigners.*

One could hardly expect to conciliate the goodwill and respect of distinguished philosophers on the continent, by describing them, in Dr. Gray's words, as "dressed out in orders and other gewgaws," as badges of political servitude. I doubt both the correctness and the policy of any statement to the effect that the "great body of scientific men", in the "despotic" states of Europe, are mere "servants and pensioners of the government." And I venture to repudiate the notion that a "dependent position" could possibly be rendered "palatable" to men, like themselves, of noble minds and vast acquirements, by decorating their persons with "gewgaws." As well might one hold up to contempt the professor's robe, the academic hood, the military uniform,—nay, even the ermine and the coronet which so fitly reward great services in law and in arms, in administration and in diplomacy.

Dr. Gray's main proposition is, I think, urged inconsistently with his premises. Surely, the higher the salary the more closely is the scientific officer bound to the authority which employs him, the more dependent on that authority (of whatever description) does he become.

The philosopher, in receiving a public salary, no doubt becomes a public servant; but he does not thereby become, necessarily or even probably, a political tool of a ministry of state. Instead of merely seeking to obtain respectable salaries (a very proper demand, in itself), scientific officers would, I believe, do more wisely to propose a legal *status*, an

* See Liebig's opinion, quoted in the Glasgow Report (p. lvi). See also some very sensible remarks in Henke's "Zeitschrift" for 1856, on the miserable expedients for bringing science to bear upon forensic inquiries in England. This able writer's conclusion has been thus translated:—"But John Bull's conceitedness tells him that that which he does must be the best; and it will require a good deal to make him admit that he has yet to learn much in those matters from abroad."

organised polity, such as would protect them against the unreasonable claims of corporations, boards, and bodies of trustees, to which, be it observed, they are at present quite as much in subjection in this country as foreign scientific officers are to their state governments. They might justly call upon the legislature to assimilate their position somewhat to that of the *legal* profession, the highest authorities of which, while handsomely remunerated, are nevertheless, by the British constitution, made wholly independent of political influence.

It is, however, very noticeable, that gentlemen holding scientific appointments, under English corporate bodies, public institutions, and voluntary associations, are apt enough to cry loudly for better pay, although they too often denounce, as unconstitutional, any scheme of organisation which would make their services more generally available and beneficial.

A wise Legislature and a foreseeing Government will scarcely sanction, still less interfere to enforce, a rate of salaries commensurate with the notions of learned officials, without requiring, at the same time, a regulated system of inspection and reports, so as to render scientific appointments of the greatest possible service to the community. Liberal salaries should, indeed, be paid to those who hold such appointments, but not so much for the object of raising science in public estimation, as of providing a useful and important body of public servants. A grand defect in Dr. Gray's proposition is, that he does not attempt to show how or by whom the good salaries which he asks for are to be paid. Mere exhortations to "governing bodies"—mere appeals, whether to their justice or to their mercy, are not likely to improve the remuneration, to elevate the position, or to promote the independence of the petitioners. The customary reply, though silly enough, is always at hand:—"Many persons, equally qualified, equally scientific, accomplished, skilful, and honest, are ready to undertake these duties for the salaries already paid: we cannot raise the market-price of intellectual labour." Those who are destitute of the power or of the will (perhaps of both) to think correctly on the subject, gladly accept so convenient a solution of the difficulty,—and the officers are bowed out.

"Governing bodies" are the last to discover the fallacy of their market-price theory. They do not perceive, or, at least, do not admit the obvious conclusion, that, if it be in principle just and correct, and therefore expedient, it ought also to be applied to the higher offices of the State, the Church, and the Law,—offices which, curiously enough, are often held by their own members. In determining the salaries of scientific officers, corporate bodies are not yet to be trusted; and Dr. Gray deprecates the intervention of the Legislature. Is the House of Commons, indeed, unwilling to recognise the claims of science when properly submitted to it? If it be so, which I doubt, what can we say of our boasted representative system? If, then, the Government is not to act in this matter, where is Dr. Gray's resource? But, if scientific men would take another course; if, through the British Association, they would unite in a reasonable request and a well-considered plan for organisation, by legislative enactment, so that their corps might constitute an integral part—a distinct element of the polity of the state, in both its *central* and its *local* spheres of action,—proving, also, as might easily be done, how the public would benefit to an extent far exceeding the full amount of the cost of such organisation,—there might be a fair prospect, even in this commercial country, of their proposals being received with consideration, and ultimately adopted.

Queen's Hospital, Birmingham: Retirement of Dr Fife. At a special meeting of the council of Queen's College, held on the 3rd instant, the Vice-Principal Chancellor Law in the chair, the resignation of Dr. Fife, one of the physicians of the Queen's Hospital, was received, and entered on the minutes. It will be seen by advertisement, that candidates for the appointment are requested to send in their testimonials on the 30th of April; that the council are pledged, in accordance with the fundamental laws of the College and Hospital, without favour or affection, to elect the candidate best qualified and most eligible, whoever he may be; and that canvassing, either personally or through friends, is strictly prohibited, and will be held to be an entire disqualification. In addition to the usual routine, the successful candidate will be required to give practical instruction at the bedside to the student; thus, the utmost possible zeal and energy on the part of the physician will be thereby secured to the patient, inasmuch as whatever is a matter of daily demonstration must be maturely and carefully reflected upon.

Gulstonian Lectures:

ON

DIABETES AND SACCHARINE CONDITIONS OF THE URINE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, FEBRUARY 25TH, 27TH, AND MARCH 4TH, 1857.

By Alfred B. Garrod, M.D., Fellow of the Royal College of Physicians; Professor of Materia Medica, Therapeutics, and Clinical Medicine, at University College; and Physician to the Hospital.

Lecture II.

Mr. President and Gentlemen,—At the close of my first lecture (which, from pressure of time, was necessarily somewhat hurried and curtailed), I was endeavouring to point out the frequent occurrence of saccharine urine, *unattended* with any notable diuresis; and to press the importance of attempting more accurately to diagnose such cases by other symptoms than the altered condition of the urine. I then stated, as my opinion, that there was no one symptom which could be regarded in any way as pathognomonic, but that the existence of a group might often excite such suspicions as would lead to the examination of the urine, and detection of the disease. The symptoms upon which I dwelt most strongly were the presence of slight *œdema of the legs*, not arising from cardiac disease or albuminuria; and certain cutaneous affections, especially herpetic eruptions and prurigo. I also mentioned that I had met with other forms of skin-disease connected with this condition of urine; and likewise that these patients, as well as true diabetics, were very liable to boils and forms of low inflammation.

Saccharine urine is occasionally met with as a temporary occurrence in severe derangements of the digestive organs, and in chronic gout and rheumatism; and sometimes it is detected in severe and apparently functional disturbance of the nervous system.

Having passed in review the most important symptoms of this disease, I shall devote a few minutes to the consideration of the course it usually runs. I must beg of you, however, to bear in mind that my remarks at present will apply especially to the cases of confirmed mellituria, and not to such forms of saccharine urine as appear to be temporary only in their nature, or to those where the diuresis is not well marked. I must also anticipate somewhat, by stating that, although these cases can be most materially benefited by treatment, yet few, if any, can be really absolutely cured. A diabetic patient, notwithstanding he may live for very many years, and arrive even at old age, is one whose life is at all times precarious, standing as it were on the brink of a precipice; and accidents, diseases, and shocks of various kinds, which to a healthy person would be of little moment, to him may be the cause of the greatest apprehension and danger. It is not in my power to give instances from my own practice of patients who have been diabetic for a *very* lengthened period; but I can point to cases of six, eight, and twelve years standing, the urine still remaining saccharine. These cases, I fear, form the exception rather than the rule; and the lengthened course of the disease, when it occurs, is probably due to the great care exercised by the patients themselves, and is seldom found among the poorer classes, who are necessarily exposed to the vicissitudes of the weather, and at the same time are seldom able to adopt such a plan of diet as is most conducive to their well-doing.

Among the secondary affections to which diabetics are liable, may be mentioned boils and carbuncles. Dr. Prout laid great stress on the connexion between a saccharine condition of the urine and the occurrence of these affections: in his article, he observes, "Diabetes very frequently (as far as my personal experience goes, *always*) *accompanies* carbuncles, and malignant boils or abscesses allied to carbuncles. This is a fact mentioned by several of the older writers, and is of great importance to surgeons, who usually have the management of these affections. Some years ago, an interesting case of this kind occurred to me. The patient was a middle aged man, who told me that, for a long period, he had been subject, at intervals of a year or two, to boils, one of which, generally on the back or neck, assumed the form of carbuncle; and that, during such attacks, he always passed a large quantity of saccharine urine. When I saw him, he was recovering from one of these

carbuncular suppurations; and the urine was copious and very saccharine. I lost sight of him afterwards, and am therefore unable to state whether the urine, in the interval of the attacks, recovered its healthy character. He repeatedly assured me, however, that its quantity, after a certain time, always became quite natural." I have given this quotation at length, as I consider the subject of great importance—at the same time, one upon which, as far as my experience goes, much error is entertained. That diabetic patients are liable to boils and carbuncles, I have little doubt. Some time since, a gentleman, a diabetic subject, who had previously consulted me, again called, after an interval of about two years. Almost the first question I asked was, "Have you managed to escape boils?" His astonishment was great, for he informed me that it was for this troublesome affection that he had come to town for advice. Such cases are by no means uncommon, and many instances will be found in the writings of Chesdelden, the late Dr. Latham, and others. The point, however, to which I wish to direct attention is this, Are boils and carbuncles *necessarily* attended with a saccharine state of the urine? Dr. Prout was inclined to think they were; for he states that, as far as his personal experience went, diabetes always accompanies carbuncles and malignant boils, or abscesses allied to carbuncles. Within the last few years, I have made several observations to determine the correctness of this statement, and am quite convinced that it is erroneous. In one instance, a gentleman, aged about 70, suffering from a large carbuncle between the shoulders, from which he subsequently died, I examined the urine very carefully when the disease was fully developed: no trace of sugar was discovered. In the second, a gentleman about 60 years old, the urine, at the time when a carbuncle existed on the back of the neck, exhibited no trace of sugar. I have also made several other examinations of the urine of patients suffering from boils and carbuncles, without being able to find any saccharine impregnation. I think I am justified, therefore, in concluding that, *although boils and carbuncles are of very common occurrence in diabetic subjects, the presence of sugar in the urine of patients suffering from these affections is by no means constant, probably very rare; and that, when carbuncles and boils occur in patients not previously diabetic, sugar is very seldom found in their urine.* My colleague, Mr. Marshall, has, I believe, also examined this point in many hospital patients, and with the same result.

I have in some few instances seen *gangrene* in connexion with diabetes, and have no doubt that there is a close connexion between the two affections, in the relation of cause and effect. In one case, a female, aged 33, who appeared to have suffered from diabetes for some years, gangrene of one leg came on a few weeks before her death. This patient had also, during the last few days of her life, a purulent discharge from the right ear; and, on *post mortem* examination, a considerable quantity of pus was found upon the membranes of the brain. Another and more interesting instance occurred in a gentleman about 68 years old, who consulted me last year, and whom I found labouring under well marked diabetic symptoms, with strongly saccharine urine. I ascertained from him that the disease had certainly been present for many years; and that, about twenty months before I saw him, he had been laid up for several weeks with gangrene of the base of one toe; the cicatrix was still well marked. My patient was totally unable to account for the affection, for he had received no blow or injury upon the part. This connexion between gangrene and diabetes appears to have been noticed by a Frenchman, M. Marchal, who has recently read a paper on the subject before the Academy of Sciences. He relates a case of a man who, after having suffered from a succession of furuncles, exhibited gangrene of a toe, without obvious cause; and his urine was found to be strongly saccharine. The gangrened part came away; the wound cicatrised; and, by means of appropriate treatment, he much improved, and enjoyed pretty good health for about the space of two years. He then neglected himself, and his diabetic affection returned; the whole foot afterwards sphacelated, and the patient died. M. Marchal relates also a case, in the practice of M. Landouzy of Rheims, of sphacelus of the lower extremities occurring in a diabetic patient; and two other instances, under the care of M. Menestrel. One, a plethoric man, aged 60, had a patch of gangrene on the thigh and back, accompanied by much thirst and saccharine urine. The second patient had a large gangrenous patch on the back of the neck, also coincident with the presence of sugar in the renal secretion. M. Marchal considers that the presence of sugar in the blood induces an inflammatory condition of the lining membrane of the blood-vessels; and that this, in connexion with the low vitality which exists in such cases, induces the gangrenous tendency, which may lead either to furuncles or gangrene.

I could bring forward several other instances of gangrene occurring in subjects who have suffered from a saccharine condition of their urine: for example, Dr. Durand Fardel states, in his work on the *Vichy Waters*, that, of two instances of diabetic patients who have died under his charge at that place, the immediate cause of death in one was gangrene of the leg; and my friend Dr. Halley also informs me that he has lost two diabetic patients from the same affection. I have taken this opportunity of dwelling a little upon the point; for though, I doubt not, the fact is familiar to many, still I think that, up to the present time, the frequent occurrence of this secondary affection has scarcely been noticed by authors, and gangrene has seldom been looked upon as one of the immediate causes of death in diabetes.

Diabetic patients, although apparently enjoying pretty good health, and feeling tolerably strong, are usually unable to bear any sudden shock to the system, such as would probably be but little felt by those in health. The late Dr. Prout informed me that, during the course of his practice, he had more than once been summoned to see diabetic patients who had travelled some long distance to consult him, and had found them either dead or dying—in his opinion, the result of over fatigue. Not long since, a lady, a diabetic subject, whom I had seen professionally, suddenly died, apparently from over fatigue, produced by watching at the bedside of a relative. That such patients have but little power to resist the attacks of febrile or inflammatory diseases, I had a very striking proof a few years since. Two diabetic patients, a male and female, were in my hospital wards at the time when an epidemic of influenza was prevalent. The male patient, a man 38 years of age, had improved very much in health during his sojourn in the institution; had gained flesh, and lost most of the ordinary symptoms of the disease. His urine also had been reduced to about the average of 80 or 90 fluid ounces *per diem*, specific gravity 1031. One day he was seized with cold chills, slight sore throat, and redness of the tonsils and uvula. From this time he gradually became colder and colder, the respiration more and more difficult; and, in the course of a few days, he died, seemingly in the cold stage of a febrile attack, the system not possessing the power of reaction. At the *post mortem* examination nothing was discovered capable of explaining the cause of his sudden death; no other appearances, in fact, than those met with in other diabetics. A day or so after the seizure of the man, the female patient was attacked in a similar manner; the pulse became very rapid and almost imperceptible at the wrist; and it was only by the immediate administration of large amounts of ammonia, wine, and other stimulants that life was preserved. Many of the other patients in the same wards suffered from influenza, but exhibited simply the ordinary symptoms of that disease.

It will generally be found that patients with saccharine urine are ill able to bear injuries or surgical operations. The following case well illustrates the fact. A man, about 35 years of age, who had suffered from diabetes for several years, but in whom the disease had been kept, to a considerable degree, in abeyance, injured one of his toes from a tight boot or some such slight cause. Ulceration ensued, and, after a time, opened one of the phalangeal articulations; the toe was amputated, but the stump refused to heal, and in about three weeks the patient died from the supervention of a gangrenous form of erysipelas. Most surgeons would hesitate to perform operations upon diabetic patients unless there is great urgency in the case. One of the most common terminations, however, of diabetes is by the occurrence of phthisis; and it is the prevalent opinion that this secondary affection constitutes the immediate cause of death in the majority of cases. I am, however, disposed to question the correctness of this opinion, although, at the same time, willing to allow that very many die from tubercular consumption. In most of the cases where I have had an opportunity of making a *post mortem* examination tubercle has been present in the lungs; in some in its advanced stages, in others but little developed: some lungs, on the other hand, have been completely free. Numerous other causes of death in diabetic subjects have been mentioned by authors; for example, Dr. Prout has noticed hepatic affection with jaundice, apoplexy, over distension of the stomach by food, excessive in quantity or improper in quality, etc.; sometimes the patient becomes comatose, the urine suppressed, and death ensues with all the symptoms of uræmic poisoning.

There is one point connected with the supervention of secondary diseases in diabetes to which I would wish par-

ticularly to draw attention, as it is apt, if passed over unnoticed, to be a fruitful source of error. I allude to the alteration which the urine often undergoes during these affections; it is not very uncommon to find a complete absence of sugar, a sign often regarded as favourable, generally, indeed, as a proof of the efficacy of some particular mode of treatment which a patient is pursuing at the time, but which is in fact too frequently a symptom of some secondary disease which may speedily terminate in death. I could quote many instances illustrative of this; one or two, perhaps, may not be without interest.

A gentleman, about five years since, consulted me, having all the characteristic symptoms of diabetes; urine strongly saccharine; specific gravity 1040, etc. After a few months every trace of sugar suddenly disappeared; but this apparently good sign was only induced by the rapid supervention of phthisis, of which he soon died. Within the last two months I had a patient in the Hospital labouring under diabetes and phthisis in a somewhat advanced stage; and it was interesting to watch the increase and decrease of the diabetic symptoms (including the specific gravity of the urine), alternating in an inverse ratio with those of the tubercular affection.

Lastly, I may mention the case of a lady who had suffered from diabetes for many months, but whose urine became perfectly free from sugar during, and for a short time after, a mild attack of scarlatina. The importance, then, of the knowledge of the disappearance of sugar under these circumstances cannot be too firmly insisted upon.

Occasionally diabetes assumes an intermittent or recurrent form; the patients, for a time, more or less lengthened, losing all traces of sugar, and this principle again appearing in the urine. I have seen one or two cases of this form of disease; and Dr. Bence Jones has drawn particular attention to it. A very careful watching of such subjects would be exceedingly interesting, and might perhaps afford some clue to the nature of this disease, by the discovery of other phenomena which perhaps may arise at the time of the cessation of the saccharine matter from the urine. Patients who lose the sugar for a time from the occurrence of other detectable disease, cannot with propriety be considered as suffering from recurrent diabetes; the term should be confined to those cases in which it takes place without the presence of any such secondary affection. Now and then patients are found exhibiting sugar in their urine during full digestion, but not in the intervals; and these, if not absolutely diabetic, are yet probably on the brink of this affection, and liable to have it developed from slight exciting causes.

Lastly, diabetic patients *may* permanently recover. Several instances have been related; but those well authenticated are exceedingly few in number. I cannot say I have ever seen a diabetic patient, whom I have known to have been affected with the disease in a well marked degree, suffering, for example, from the thirst, dryness of skin, and great diuresis, *permanently* lose all traces of sugar from the urine. I have, however, been assured by patients that they were formerly diabetic, and I have been unable, after repeated examinations, to find sugar in their urine. In many of the slighter cases, where the urine has been distinctly saccharine, and the patients have experienced symptoms, doubtless arising from the morbid state of the blood, as the herpetic eruption, etc., I have seen the renal secretion become perfectly normal, and remain so as long as I have been able to keep the patients under my observation.

From what we have now shown of the liability of diabetic patients to be affected by the occurrence of secondary affections, by shocks and injuries of various kinds, and from what we have stated as to the rarity of their ever completely getting rid of the disease, I fear we cannot fail to regard the prognosis as anything but favourable: but at the same time I am convinced that in many instances life can be greatly prolonged, so as to enable the patient to reach at least a moderate old age. To effect this, however, the strictest attention must be paid to diet and regimen, and the avoiding of great mental exertion and over fatigue of body.

CAUSES OF DIABETES.

I am not aware that the cases which have fallen under my notice, in which I have been able to trace what appeared to have induced the affection, will throw any new light upon the etiology of this disease; still it will be of some importance to dwell a little on this part of the subject, as, when discussing the pathology of saccharine urine, the recent physiological discoveries as to the nature of glycogenesis may, perhaps, be in some degree, confirmed or refuted by such a study.

Dr. Prout believed that diabetes was much more frequently inherited than acquired; as far as my limited experience goes, I cannot acquiesce in this opinion. I have, indeed, known several instances in which more than one member of a family have suffered from the disease; but in by far the greater number of cases, I have seen no proof of any hereditary tendency: females appear to enjoy a greater exemption than males; but, as in gout, I should be disposed to consider this immunity due to the greater absence of powerful exciting causes: adults are, I believe, more subject to diabetes than children, although the latter are by no means exempt. With regard to temperament I can say little. As to other predisposing causes it seems to be a pretty well ascertained fact, that depressing agencies long continued, such as residence in cold, damp, and malarious districts, frequent excesses in alcoholic liquors, a poor and unwholesome diet, tend to induce the disease; but very commonly no such causes have been in operation, and the affection has come on suddenly in the midst of at least apparent good and robust health. The most commonly recognised *exciting* causes of diabetes may be divided into three classes:—

1st. Causes influencing particularly the skin.
2nd. Those affecting the nervous system.
3rd. Those influencing more particularly the mucous membrane of the alimentary canal, and the organs in connexion with this tube.

Among the first class may be mentioned, exposure to cold; drinking a large quantity of cold water when very warm; bathing when over-heated, and afterwards becoming chilled; attacks of rheumatism, and other febrile diseases, followed by exposure; the occurrence of boils, etc., but probably these last may be rather indications of already existing disease, than true causes of the affection. These form one class of exciting causes, and, perhaps, the most numerous: the majority of my hospital patients have assigned some one of these.

The second class of causes has, of late years, excited some interest, on account of recent physiological researches on the subject. Under this head are included cases in which injury to some portion of the nervous system has occurred, or where the patient has experienced some powerful mental shock, as sudden and intense grief, or extreme mental anxiety. A case has been related to me by a very intelligent person, in which saccharine diabetes was produced by prolonged anxiety and fear, arising from the following cause:—Two gentlemen fought a duel in Holland: after the first had fired he remained for some time in a state of suspense, from his adversary's pistol once or twice missing fire. He was uninjured, but, a day or so after, became diabetic. The narrator of this case was not a professional man, but appeared to be fully conversant with the subject. That diabetes occasionally follows diseases and injuries of the nervous system, in the relation of effect and cause, seems pretty certain. Epileptics sometimes die with diabetes: I have known one instance. I have also seen examples of saccharine urine accompanying great, apparently functional, disturbance of the nervous system; and there are on record numerous instances of a diabetic state being induced by injuries to the back, concussions of the brain, and fracture of the skull. I examined and discovered sugar in the urine of a boy, a patient of my colleague, Mr. Marshall, who had a fracture of the temporal bone, produced by a blow on the mastoid process, and in whom, after death, pus was found in the cochlea and in the canal of the seventh nerve. One of my hospital patients, with confirmed diabetes, received a very severe blow on the head shortly before noticing the symptoms of his disease; and many examples of the influence of injuries to this part of the body, producing a saccharine state of the urine, have been brought before the profession by Dr. Goolden. We shall shortly, when treating of the pathology of this disease, detail experiments having a considerable bearing on the subject.

A third class of causes, of which, at present, little is known, consists in the introduction of irritating matters, as alcoholic fluids, indigestible food, etc., into the stomach. An excessive debauch has been followed by the disease; drinking large amounts of cider, or other diuretic fluids, have been stated to have produced the same result. A gentleman, well versed in such subjects, informs me, that he can produce, and has more than once produced saccharine urine in his own person by eating very indigestible substances, and that such a state has lasted some days. An exclusively vegetable diet has been asserted to have caused diabetes; and the case is related of a priest, at a convent in the south of France, where the diet is of this character, having acquired the disease. A case is also related of

nitre, taken in a very large dose in lieu of Epsom salts, causing great diuresis and mellituria, after the symptoms of irritant poisoning had passed off. In lower animals we shall also find that the introduction of alcoholic and other irritants into the duodenum, or portal vessels, is followed by a saccharine condition of the urine.

Lastly, it is affirmed, that the administration of certain remedies, as arsenic and quinine, produces, at times, a temporary impregnation of the urine with saccharine matter. Although the causes included under the third head may occasionally operate in inducing the affection, yet they by no means necessarily cause it; otherwise we should find diabetes a much more frequent disease than it actually is. With regard to the whole subject of the etiology of diabetes, and of our knowledge of the causes which will temporarily produce a saccharine state of the urine, many and more accurately ascertained data are required than we at present possess.

[*To be continued.*]

Reviews and Notices.

On the Pathology, Symptoms, and Treatment of Ulcer of the Stomach. With an Appendix of Cases. By William Brinton, M.D., Fellow of the Royal College of Physicians; Physician to the Royal Free Hospital; etc. pp. 227. London: Churchill. 1857.

Among the several works which have in recent years been written on the diseases of the stomach, that of Dr. Brinton, though confined to the consideration of a special lesion, possesses a high value; inasmuch as it contains evidence that the author has laboured with much industry and a good share of success at the elucidation of the somewhat obscure subject of his investigations. We speak with limitation as to the absolute success of Dr. Brinton's researches; but in this we do no more than the author himself, who candidly admits "how much we have yet to learn respecting even the more obvious pathological indications of this important malady." The manner, however, in which Dr. Brinton has performed that which has been done, shews him to be competent for the performance of what remains to be done.

In his treatise, the author arranges his remarks under three heads:—1. Pathology; 2. Symptoms; and 3. Treatment. An appendix contains the histories of ten cases, "reprinted, with little change, from the Association Journal." We note with satisfaction, *en passant*, that these cases "are intended to illustrate the more common (and therefore important) varieties of the malady." The recognition of the importance of *common* cases shews Dr. Brinton's good sense; and it would be better if this principle were much more generally recognised.

In the first part—that on Pathology—Dr. Brinton gives a large amount of valuable statistical information regarding the frequency of ulcer of the stomach, as well as of perforation and hæmorrhage, the age at which and the sex in which it most commonly occurs; and also particulars as to its size, shape, number, margin, base, depth, etc., of gastric ulcer, and its combination with cancer, tubercle, and other diseases.

In the second part, the author has derived his information regarding the symptoms of ulcer of the stomach from two sources, viz.:—"1. The records of several hundreds of cases, affording in many instances little more than an outline of the chief symptoms present, but always verified by careful necropsy. 2. The personal study of about one hundred and fifty cases, affording minute details respecting symptoms, but only verified by necropsy in a small proportion of that number."

Of the succession of symptoms in a typical case, Dr. Brinton gives the following outline:—

"The malady is announced by disturbances of gastric digestion: at first, mere uneasiness and pain in the epigastrium; then nausea and vomiting, or regurgitation, which expel the food previously taken, or a tasteless or acid watery secretion. At this stage of the disease, it is sometimes cut short by the occurrence of perforation, with its sequel of fatal peritonitis. Failing such an accident, the dyspeptic symptoms are next complicated by hæmorrhage from the stomach; sometimes a sudden and dangerous gush, oftener a slow and intermittent drain, of blood. The anæmia produced by this hæmorrhage is generally associated with a cachexia which seems to be essentially independent of it; being chiefly the result of the inanition necessarily implied by frequent vomiting of the food, or by large destruction of the gastric mucous membrane, and consequent impairment of its function. In young females, another symptom is often present, in the form of more or less complete amenorrhœa, which may be associated with either of these two states of anæmia or cachexia; in other words, may be connected with ulceration, with hæmorrhage, or with both.

"The gradual acquisition of all these symptoms conducts the disease, in a variable period of time, to a climax, from whence we may next briefly trace it towards its termination. Retaining the liabilities to death by perforation, by hæmorrhage, by vomiting, and by exhaustion, which the above organic results of ulceration severally imply, the lesion often ends by one of these modes of dying, or by two or more of them in combination. In other cases, a spontaneous subsidence of these symptoms, in something like the inverse order of their occurrence, announces a recovery; or a similar amendment is only effected by careful medical treatment, such as quite entitles us to dignify it by the name of a cure. In less numerous instances, these symptoms continue with what is (for obvious reasons) rarely more than a moderate intensity, during a variable period of life; in the course of which their uniformity is from time to time varied by considerable fluctuations of severity. The remissions which form one extreme of such fluctuations sometimes merge into intermissions so complete, that we are left in doubt whether the process of ulceration has been merely reduced to a stand-still, or has broken out afresh after the cicatrisation of the lesion. In any case, the protraction of these symptoms during many years of life gradually complicates the impairment of nutrition they produce, with that naturally resulting from the approach of old age; mingled with which they then constitute an indirect or conditionating cause of death, the influence of which it seems scarcely possible to estimate with any exactness." (pp. 60-2.)

But the symptoms vary much in different cases; and hence they each demand careful examination. The phenomena of pain, vomiting, hæmorrhage, constipation, diarrhœa (a comparatively rare symptom), amenorrhœa, cachexia, perforation, and ampliation, or enlargement of the stomach as a result of the constriction produced by a cicatrix, are therefore fully and ably discussed in all their varieties.

One of the statistical facts referred to in the first part of the work is the frequency with which perforating gastric ulcer occurs in females, especially in the six years between fourteen and twenty. This remarkable liability to perforation at this period of female life—a fact first established, as Dr. Brinton acknowledges in complimentary terms, by the industry of Dr. Crisp—naturally leads to the inquiry whether it has any relation with the physiological phenomena of the female system. The existence of any such relation is, as Dr. Brinton observes, very problematical.

"Not only do the proportions of older females, and of males, who succumb to this accident, afford abundant evidence that it is essentially independent of any such cause, but the circumstances of many of these cases (occurring in young females) themselves are such as inculcate great caution in coming to any definite conclusion on their causation. Some of them are expressly mentioned as not having arrived at puberty: others are recorded to have menstruated regularly, and even profusely: and finally, one of the most characteristic instances occurred in a person who, though supposed to be a female, was proved by a careful necropsy to be devoid of ovaries. And whatever the relations which the various symptoms of such cases bear to each other, or however expedient it may be to regard these, with their age and sex, and their liability to perforation, as constituting them a special group, there can be no doubt that we know nothing at present which would justify us in regarding them as pathologically distinct from others. On the contrary, there is every reason to affirm, that in a large number of the females who became the subject of the lesion at this epoch of life, it has precisely the same origin, course, termination, and

appearances, as the gastric ulcer of any other person, old or young, male or female." (pp. 32-3.)

After some further remarks on the etiology and diagnosis of gastric ulcer, the author proceeds to speak of the treatment. From among the valuable matter contained in this part of the book, we will extract the author's observations on the use of opium in cases of gastric ulcer.

"Respecting the operation of this drug in gastric ulcer, I might say much that would be both interesting and true, but nothing that would include those elements of accurate physico-chemical research on which alone a conscientious physician ought to base his theory of the action of this or any other medicine. As regards mere facts, I am quite certain that, though the pain often present in these cases is of course an additional indication for the use of opium, yet it is by no means the chief (far less the only) guide to its administration. It is not as an anodyne, not even as a sedative, that opium seems to be most useful. On the contrary, my experience would lead me to conclude, that it is especially in ulcers of long duration, of large size, of obstinate character, and in broken exhausted constitutions, that this invaluable remedy comes most fully into play: and that the condition these circumstances presuppose being present, its use is not one whit less advantageous, even though the habitual pain is but trifling, or though (far from having to replace the customary alcohol of the drunkard) it is prescribed for a patient who has been always of temperate (or even abstemious) habits.

"In short, I am anxious specially to urge upon the profession the importance of giving opium in this dangerous and frequent disease, with just the same views as those with which I suspect it has long been employed in phthisis, or (a still more apt illustration) in diabetes. To relieve this or that pain, to check great irritation or undue secretion of this or that mucous membrane, supposing such symptoms to be present. But to support the strength, to buoy up the nervous system, and to check the waste or expenditure of the tissues generally, whether the above local symptoms are present or no. That it is thus opium aids to heal a gastric ulcer, I can scarcely doubt. And that, in this way, the same drug which diminishes the saccharine constituent of a diabetic patient's urine, may also check that destructive absorption which a gastric ulcer expresses and measures, is quite in accordance with all that we know respecting its power of lessening bodily waste.

"But I am more anxious to state the fact of its usefulness in combating this lesion, than to explain the principle upon which it does so. It is, therefore, with very great pleasure that I have found my own experience of its efficacy in ulcer of the stomach confirmed by the statements of other observers with respect to its uses in ulcer of other parts of the body. The reader may take the analogy of the two classes of ulcerative lesion at what it is worth; and may estimate at a higher or lower rate that remarkable parallelism which the pathological details I have established respecting gastric ulcer exhibit with those of the ordinary ulcer of the leg, as shown by Mr. Critchett's able treatise. But should he be disposed to think favourably of statements founded on such wide research as mine have been, he will probably hardly fail to be struck by their perfect agreement with the independent results of a better authority in the treatment of a kindred disease. Allowing for the situation of the lesion, and for a variety of details which that situation chiefly dictates, there is hardly any difference between the opinion I have come to respecting the efficacy of opium in ulcer of the stomach, and that which has been so clearly and happily put before the profession by Mr. Skey, as the result of his large hospital practice, with respect to its benefits in ulcers of the limbs.

"As regards the mode of administering opium, where vomiting is moderate, or where diarrhœa is prominent, the compound kino powder is a very convenient formula. But when vomiting is at all excessive, or resists a combination of this powder with bismuth, the drug is generally better borne in the solid form; either as a small pill of the watery extract, or a few grains of the compound soap or styrax pill, two or three times a day. The effect of opium given in this way seems to be often quite as striking as in ordinary ulcers of the leg.

"For the same elderly or intemperate class in which opium is so generally beneficial, other sedatives will occasionally afford similar (though less marked) results. Hyoscyamus, conium, belladonna, and other extracts of this kind, are thus sometimes beneficial, though I have rarely had occasion to resort to them. The extract of hemp sometimes answers admirably; indeed, were its effects more uniform, it might often be advantageously substituted for opium itself." (pp. 142-6.)

We have derived much instruction from Dr. Brinton's work on *Ulcer of the Stomach*, and shall look forward with pleasure to future communications with its author.

British Medical Journal.

SATURDAY, APRIL 18TH, 1857.

THE RECENT TRIAL OF ALFRED MATCHAM FOR MANSLAUGHTER.

The recent trial of Alfred Matcham, at Bury St. Edmunds, before the Chief Baron, for the manslaughter of Mary Ann Jeckells, at Lowestoft, affords another striking proof of the necessity for some fundamental reform in our profession.

Here is a person possessing, or affirming that he possesses, a diploma from the College of New York, after having studied under a physician in that city. Although he has no legal qualification to practise in this country, he succeeds in obtaining an extensive midwifery connexion, together with a considerable amount of popularity, as evidenced by the sympathy shown towards him subsequently amongst a certain class of the inhabitants of a provincial town. It is only natural, under the circumstances, that he should not be recognised by the resident regularly qualified practitioners. Such a person is not likely to have an uninterrupted path of prosperity before him, for sooner or later the time will come when he will really stand in need of the advice and assistance of one or other of his professional opponents. However confident and self-satisfied he may be whilst all goes on smoothly, he must feel perplexed and anxious when the difficult case—the case in which the counsel, the sanction, or the hand of the experienced auxiliary is invaluable—falls to his lot. But, in such a strait, what is he to do? From his isolated position he is obliged to act, and perhaps rashly, on his own responsibility, inasmuch as he probably knows too well, that not only would he fail to obtain competent assistance at his own request, but that no one would meet him in consultation at the request of the patient. Ought such a state of things to exist? Ought any man to have the opportunity of attaining such a responsible and, at the same time, professionally friendless position? Ought the life of any poor woman to be endangered, to say the least of it, by an unqualified man refusing to allow another doctor to be called in, because he knows that such a step must lead to himself being turned out? A case has terminated unfortunately; an inquest has been held; a verdict of manslaughter has been returned; and the prisoner has been committed for trial. The first thing that strikes us is the charge of the judge to the grand jury, and certainly nothing could have been more just and liberal than his lordship's observations on the relative position of the medical man to his patient; but then the accused was treated as a legally qualified practitioner. So, in summing up, his lordship remarks, "In a case of this kind, the jury would inflict a great injury on society if they did not start with something more than a presumption of the innocence of the accused; if he were properly educated; and did not obtrude himself by

a pretence of learning he had never acquired; if he were what he professed to be, a student of medicine, admitted somewhere."

Now, may we not fairly ask, what constitutes a properly educated man? Does the mere affirmation of having studied under a physician of New York answer the question? Does not a man obtrude himself, by a pretence of learning he has never acquired, when he proceeds to deliver a woman with instruments that slip, to say the least of it, twice, and then has recourse to a spoon, the patient, during the operation, exclaiming, "Oh, sir, you are hurting me! you appear as if you were pulling me to pieces!" Does the evidence of wounds, one of them two inches long, of the walls of the passage, as displayed at the *post mortem* examination, and deposed to by three respectable qualified witnesses, solve the question? Was the accused in this case really what he professed to be, viz., the holder of a diploma from the college of New York, and if so, why was it not produced?

Were not these questions fair ones for the consideration of the jury? But according to the present state of the law, *the possession of a diploma is a matter of little or no importance.* The counsel for the prosecution is obliged to pass this point over: "If a man undertakes to act as a physician, he is bound to bring to his case all reasonable and proper skill. If he undertakes to act without a diploma, he ought, perhaps, to be more cautious than one duly qualified." Now, who is not able to see, by a glance at these words, how the case stands? Any ignorant pretender is at liberty to perform operations or administer drugs, from month to month and year to year; he may maim or disfigure for life, it may be, the mother of a young family; or, from his want of scientific medical knowledge, he may let acute disease go on, unchecked, which shall convert the strong man—the staff of the house—into the chronic and burdensome invalid, or hurry him to a premature grave. If the victims themselves of these horrors be but satisfied that all reasonable and proper skill has been brought to their case, the law does not interfere. If death close the scene unexpectedly, and a coroner's inquest end in a verdict of manslaughter, it will be exceedingly doubtful if the judge at the trial will not discover there has been a want of fair play towards the accused, or that the evidence of the cause of death is defective; and so the jury will find that "they are not in a situation to judge whether want of skill was displayed or not, or whether the death were attributable to anything else, and if so, then *the prisoner's want of skill is of no importance whatever*," and their verdict is therefore, *Not Guilty*.

But now let us look at some of the points more immediately connected with the case under consideration. The counsel for the prosecution raised the question, "that the defendant was entirely mistaken in supposing that the pains, with which the deceased was affected at this time (the end of seven months), were labour pains at all." This position is untenable. Is it likely that any one, who had attended many cases of midwifery, would, after watching a case closely for some days, be unable to know whether labour had really set in or not? Or is there anything remarkable in labour coming on at the end of seven months? The pains were thought by Mr. Image to be spurious; but why were they not the pains of the first stage of labour—at all events, those pains that were described as intermittent, and which prevailed for forty hours before the birth of the child? It is only justice to state, that Matcham does not appear to have used the instruments before the os uteri was dilated; for, whilst he was using the spoon, the child was born. The following is a more important question:—Was it right to use any instrument for the delivery of a seven months child, in a woman who had previously given birth to four children at term? As a rule, the answer would undoubtedly be in the negative; although it is quite possible that, in extreme cases, circumstances might occur that would render instrumental aid justifiable.

In the defence of the case, great stress was laid upon the charge of professional jealousy. We are asked to believe that a respectable member of the profession, who has had the leading practice of the town and neighbourhood for nearly thirty years, could "instigate and foment proceedings" against a man to whom, perhaps, he had never spoken,—proceedings that would, in all probability, ruin him, and this not upon the deliberate conviction, that he was doing a duty to society, but from the miserable motive of jealousy? The statement of Mr. Worthington is a satisfactory answer to this charge: "His practice is with a different class of people to mine." Again, it is said,—and this is a matter of consequence, as the learned judge endorses the opinion,—that Mr. Worthington ought to have communicated with the accused, and given him notice of the proceedings; that he ought to have invited him to be present at the opening of the body. Now if the accused had been legally qualified, he or his representative ought certainly to have been present at the *post mortem* examination; but probably Mr. Worthington was not aware, at the time, that Matcham was even possessed of a diploma from the College of New York.

As regards the medical evidence for the prosecution, it must be confessed, that the cause of death is not conclusively established. A more searching examination of the body ought, undoubtedly, to have been made; the kidneys especially, independently of the previous history of the case, should have been carefully examined. How such important organs were overlooked, we cannot understand; and we think every pathologist will admit, that Dr. Webb's attempt to supply the defect in the evidence, by stating, that they appeared healthy, as viewed *in situ*, had better have been omitted. Of this we feel assured, that the examination of them was not purposely neglected. One cannot help regretting, that the character of the injuries to the passage was not more minutely detailed. What was the condition of the wounds? were they sloughing? What was the depth of them? Were they completely through the walls of the vagina, as stated by the counsel for the prosecution? Again, What did the tympanitic state of the abdomen indicate, as deposed to by Mr. Worthington, on his first visit to the patient? Mr. Worthington distinctly states in his evidence, that there was no inflammation (peritonitis). As to the mode in which the injuries to the vagina were inflicted, there seems to have been a difference of opinion. Mr. Worthington at first thought they were produced by the spoon, but afterwards considered they were caused by the "plunging" or "thrusts" of the forceps. If the latter opinion be correct, there must have been great violence used. One can conceive that, if the soft parts were locked in between the blades, and traction were made, the patient might utter such exclamations as she is said to have done. At the same time, the forcible introduction of the instruments might give rise to the same feelings in the

patient, and more satisfactorily account for the injuries discovered after death.

There are several other points for consideration; but we must defer that duty to a future opportunity.

THE FINANCIAL REPORT OF THE ASSOCIATION AND "THE MEDICAL TIMES AND GAZETTE".

The publication of an Annual Financial Report of the affairs of the Association forms a necessary portion of the duties of the Committee of Council. Our contemporary, the *Medical Times and Gazette*, with that amiable spirit which should characterise the bearing of one journal towards another embarked in a similar scientific purpose, never fails to make this Report the foundation for an attack upon this paper. It devotes itself once a year to prove, in short, that the Association is entirely in error by having a Journal at all, and that it had far better transfer its 2,100 subscribers at once to its own list. As the *Medical Times and Gazette* is a purely trading journal, this system of attack is all fair enough; but if it would condescend to take our advice, it would pursue its tactics a little less clumsily. The ostrich, as we are informed by travellers, sticks its head in a bush when pursued by the hunter, and thinks that because it cannot see that it cannot be seen: we can assure our contemporary that everybody can see the philanthropy and purity of purpose which dictate his attacks upon the existence of this Journal. We need scarcely say that the weekly Journal of the Association is the rivet which keeps the Association together. Of course we do not refer to our own editorial exertions, but simply to the fact that in the Journal, as in a mirror, our two thousand and odd associates see each other, interchange opinions, learn what is going on, and see reflected, not only the metropolitan, but the provincial practice of the empire. The vast majority of the Association are agreed upon this point; and we can afford to allow our contemporary to entertain a different opinion, taking his motives into due consideration. One thing we cannot afford to see him do uncorrected, however, and that is to misstate entirely the figures of the Annual Report. It seems to be his aim to prove that the entire receipts of the Association are absorbed in the production of the Journal. To wit:

"Out of £2040 : 13 : 1 expended in 1856, it appears that the whole was on the Journal account, with the exception of £50 reform committee, £12 circulars for special meetings, and £31 : 5 : 2 for sundries—or £93 : 5 : 2 in all!" Anyone who knows anything about the Association at all knows that this is an entire mistake. Why, the salary of the Secretary alone is more than the sum thus set forth as comprising the whole items devoted to the purposes of the Association. It would be under, rather than overrating the matter, to state that the machinery of the Association, even if no Journal existed, would cost upwards of £300 annually. Our contemporary again, more ingeniously than ingenuously, states that "the expenses of the Journal for the year have been £2475 : 7 : 9, while the actual receipts for subscriptions due in 1856 were only £1565 : 1 : 6." How the former sum has been arrived at our contemporary alone can tell. We, who ought to be acquainted with the Journal expenses, know that all its liabilities are covered by £2100 a-year. It is a more simple matter to discover the manner in which our contemporary endeavours to convey an idea of our having very inadequate receipts; it is by merely omitting an item of £600 a-year for advertisements, and by saying nothing about outstanding subscriptions—a singular example of what is familiarly known as "cooking an account," and very bad cooking too. Having thus contemptuously disregarded Mr. Cocker, he proceeds to draw the inference so comforatble to himself, that "The British Medical Association is *clearly therefore (!)* an association whose income is almost entirely devoted to the support of a weekly medical journal."

This is the view of the *Medical Times and Gazette*. Now our own view is somewhat different. It appears to us that the whole machinery of an extensive Association spread over the superficies of these islands, together with the publication and postage of a weekly journal, which we flatter ourselves is not inferior to our contemporary, are conducted at an expense to each member *actually of nine shillings and fourpence a year less than the annual subscription to his journal alone*. It is an old saying that those who live in glass houses should not throw stones; and as our contemporary so persistently assails this Journal, and contends that there is no necessity for its existence, we may be permitted to ask whether it is to the interest of the profession, and especially of the authors of the profession, to support a journal whose proprietor is one of the chief publishers of medical literature.

To return, however, to the report itself, we may congratulate the associates on the fact that in one year our debts have been reduced from £1,312 : 17 : 6 to £475 : 11 : 7, or by no less a sum than £837 : 5 : 11. As upwards of £500 of the Call Fund has not yet been paid, but is still coming slowly in, we may expect to see the balance still further reduced, independently of the aid received from the increase of the advertisements, which, our associates must perceive, have of late greatly improved. If we are not quite out of the wood yet, we can see the light between the branches, and shall, we believe, soon stand once again on the "open".

THE WEEK.

Our contemporary, the *Medical Times and Gazette*, does not appear to agree with a position which he gratuitously assumes we have taken up with regard to the Army Medical Department and the Medical Officers of the Army. He accuses us of having made an unnecessary "onslaught" on innocent officials, and of having unfairly traduced the services of military surgeons. "It is a pity our contemporary had not studied the past history of the department," rather condescendingly remarks our contemporary. We can only say, that it is a still greater pity that he has not read correctly the very "onslaught" he condemns. It never entered our minds to cast the slightest blame upon any member of the Army Medical Department. We have over and over again stated, that they have all done their duty manfully; but we complain that no ability, however splendid, can have fair play in the present dependent position of the Army Medical Department. We possess a machinery consisting of a Director-General, and of Inspectors of Hospitals of different classes; they make reports very admirably, and, no doubt, with great punctuality; but what comes of them? Nothing. It is an elaborate machinery which illustrates admirably Dickens's scheme of "How not to do it." We can assure our contemporary that we have not hammered

at this subject, week after week, without a full knowledge of the past history of the Medical Department of the Army. We were perfectly well aware that, in 1810, the Old Board, which once formed this department, was abolished: we stated so in a late article. But such a Board! consisting of "an ignorant and corrupt trio; composed of a successful apothecary from Weymouth, and two gentlemen, who knew nothing of soldiers or their diseases but what they saw of the Guards in Hyde Park." Such is the history of the last Board, and little wonder that it was cast to the winds. But is there any reason that the abuse of a good plan should be urged against the plan itself? We want no ignorant pretenders constituted into a Board, but three of the best men that can be fouud,—a Bright, a Brodie, and a Dr. Farr, to preside over the health and physical efficiency of 150,000 of our fighting men. Our contemporary further complains, that we have not sufficiently shown that the ameliorations which have already taken place in the army were the results of the suggestions of members of the Medical Department. No doubt Inspector-generals have made admirable reports; but it is only by the accident of their having fallen into the hands of such determined friends of the soldier as Lord Metcalfe and Earl Grey that these are, under the present system, attended to. We do not think that the welfare of the British soldier should depend upon any such *accident*. The Medical Department of the Army should be sufficiently powerful to make itself attended to, irrespective of any great patron whatever. Our contemporary must be aware, as well as ourselves, that sweeping Reforms are in contemplation with respect to the Medical Department of the Army, and his aim must be the same as our own,—to see that department placed in a much more independent position than it at present occupies; and also, to see that its scientific direction should be of the highest order to be found in the country. That is not possible to find in any single individual such a powerful direction, must be clear; hence our advising of a Board of three thoroughly able men, each distinguished in the three departments necessary for the due care of our military establishments.

The Foreign Correspondent of the *Times* of Wednesday makes the following announcement: "Dr. Wagner, the private physician of Prince Frederick Wilhelm of Prussia, has been summoned to England to be present at the Queen's approaching confinement." As no mention is made in the bulletins of the happy accouchement of Her Majesty, signed by Drs. Sir J. Clark, Locock, and Fergusson, of Dr. Wagner's name, we must, we suppose, conclude that these distinguished physicians did not need the advice of Prince Frederick's private physician. Of course the invitation of such a foreigner would have been an insult to Her Majesty's physicians, and the idea could only have originated in the mind of a newspaper correspondent: at the same time it is an indication of the Prussian belief that their *savans* will, under the royal patronage, find comfortable quarters in this country.

Dr. Headlam Greenhow has addressed a letter to the Right Honourable the President of the Board of Health, on the subject of the apprehended murrain among cattle. He states that the disease recently or at present prevailing in Holstein and the adjoining countries is the "pulmonary murrain"; and that this disease has already proved destructive to cattle in Great Britain and Ireland during the last fifteen or sixteen years. As it is, he says, as prevalent here as on the continent, no danger exists to our cattle from the importation of foreign cattle suffering from the disease. At the same time, all animals suffering from any serious disease that arrive from abroad are detained by the Inspectors of the Board of Customs, and their bodies are destroyed, if utterly unfit for human food. Besides the pulmonary murrain, Dr. Greenhow refers to a different and more contagious and fatal disease—the "steppe murrain". This is spontaneously developed only in the countries of Southern Russia, where it is never absent, and whence it often spreads by contagion into Poland, and sometimes into Prussia and Austria. Stringent measures are employed in Russia, Prussia, and Austria, for preventing the extension of the disease; diseased cattle being killed, and the importation of them, or of any part of them, being prohibited. This disease having appeared to have reached places in the vicinity of the Prussian frontier, Her Majesty's Government has prohibited the importation from the Baltic provinces of any article likely to introduce the infection into this country.

The Guardians of the West Derby Union, near Liverpool, appear to have a most exalted opinion of the capability of the medical officer of their workhouse to do an unlimited quantity of work in the way of attending to the sick. When that gentleman—Dr. Birkbeck Nevins—undertook the duties of his office, several years ago, there were 45 beds; and now the number amounts to above 250. His salary has been raised from £50 to £120. The salary, however, is not the point on which Dr. Nevins insists in his remonstrances to the Board of Guardians, and to the magistrates of the Hundred of West Derby. He represents that—

"For the entire attendance upon the 250 sick he is responsible, and without assistance; and not only so, but also for dispensing all the medicines they require—for the whole hygienic direction of the workhouse, and for a weekly return of the dietary of all the sick; which latter duties always make a great demand upon his time."

From this amount of work—far too great for any one man to perform—Dr. Nevins begs to be relieved, by having proper assistance granted to him; but it appears that his request is met by contemptuous refusal on the part of the guardians. They did, indeed, lately allow him a dispenser, but on such conditions that the person engaged left in disgust at the end of the first day. Further, according to frequent custom, an attempt is made to charge Dr. Nevins with neglect to the poor. This charge he replies to by the following striking exposure of mismanagement.

"It is not long since the visiting committee desired me to report upon the great number of cases of ophthalmia in the house; and the prevalence of this disease was a special subject of inquiry by Mr. Mainwaring, the assistant commissioner of the Poor-Law Board, during his recent visit. I have brought before the Board—until it is weary of hearing, and I am weary of making them—representations upon the state of the children's playground in the workhouse. There are 204 boys and girls, besides infants; and there is not the slightest protection for them from the weather when not in school, except the stone steps leading to the sick wards. Rain or frost, hail or thaw, they are exposed without shelter to the weather; and, with melting snow thick upon the ground, they have been throughout the winter in the exposed yards, or else crouching beneath the steps alluded to, for such protection as they afforded; and the consequence has been, that a very large number of children at a time have been confined to the sick wards with ulcerated frost-bites, and there has been an amount of ophthalmia which has appeared strange to the Board. And now what has the Board done in consequence of my representations on this subject?"

Reports of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Tuesday, February 17th, 1857.

Thomas Watson, M.D., President, in the Chair.

ULCERATION OF ONE KIDNEY, SLOUGHING OF THE BLADDER, AND FISTULOUS OPENING FROM THE BLADDER INTO THE RECTUM. BY C. BROOKE, ESQ.

The subject of this disease, a middle-aged man, was admitted, under the care of Mr. Brooke, into the Westminster Hospital, with extensive extravasation of urine, which had existed for four days previously. The distention was freely relieved by incisions, and the scrotum was saved; but the integument of the perinæum appeared to have almost lost its vitality, and a large portion subsequently sloughed; after which the urine escaped freely from an orifice at the bottom of the wound. A small catheter was introduced and retained, through which the urine flowed, and was occasionally ejected per saltum. Nevertheless, the catheter could not be satisfactorily passed into the bladder; the point probably hitched in the vesical orifice of the fistulous canal, which appears to be of long standing. The patient stated that no instrument had been passed for four years, and for some years previously one of very small size only. The fistulous communication with the rectum was inferred from the passage of some apparently vesical mucus per anum. The patient sank from exhaustion. The slough contiguous to the neck of the bladder probably comprises the strictured portion of the urethra. There was also a very much constricted congenital phymosis.

DISEASE OF THE AORTA; ANEURISMS; FIBRINOUS CLOTS IN THE ARTERIA INNOMINATA AND THE LEFT CEREBRAL ARTERY. BY W. O. MARKHAM, M.D.

L. S., a female, aged 50, had long suffered from shortness of breath and palpitations: latterly, also, and especially in cold weather, she had been troubled with attacks of faintness and giddiness. The difficulty of respiration increasing, she sought relief at St. Mary's Hospital, on Feb. 4, 1857. At this time the breathing was much impeded, her face livid, and the cervical veins swollen, and no pulse was perceptible at the right wrist. Shortly after her admission, she was found lying in bed insensible, her right arm and leg entirely paralysed, the pupils of the eye immovable and contracted; no pulse could be felt at the right wrist, nor in the vessels on the right side of the head and neck; a diastaltic murmur was heard over the sternum. She lay in this state, the difficulty of breathing gradually increasing, for sixty hours, when she died.

A large amount of serum was found in both pleuræ, the lungs much congested, and in parts compressed. The pericardium was everywhere adherent by old and organised attachments. The heart was larger than natural; the aortic valves, somewhat thickened and retracted, were incompetent; the arch of the aorta was much diseased, exhibiting everywhere at its internal surface the signs of fibroid and atheromatous degenerations. One small aneurism was found at the left side of the aorta, immediately above the left valve; two small aneurisms also existed on the right side, above the semi-lunar valve; the larger, about as big as a pigeon's egg, pressed upon the right auricle and also on the vena cava descendens, so as to have much diminished its size. The arteria innominata was completely closed by a firm fibrinous clot, closely adhering to its walls; a clot also reached up the whole common right carotid. The opening of the left carotid artery was contracted to one-fourth of its proper size, by hard fibroid deposit beneath its inner membrane. The brain was congested; its ventricles contained much serum; the left internal carotid, after leaving the sella Turcica and left middle cerebral artery, was closed by a firm red clot of blood; the left corpus striatum and parts around, supplied by the artery, were much softened.

This case seemed to demonstrate, that the arrest of the circulation of blood through the innominata had produced no marked changes either in the locomotion or sensation of the individual (for, *before* the paralysis came on, no pulse could be felt at the right wrist), and that life was carried on for sixty hours solely by the blood which was conveyed to the brain through the left vertebral artery. The paralysis, it might be presumed, occurred at the moment the clot was formed in the left internal carotid. The cause of the formation of the fibrinous clots in this artery, and in the innominata, was hypothetical; but it might fairly be suggested, that the clots were in some way connected with the aneurismal fibrinous layers; the openings of the aneurisms were large, and thus broken down bits of fibrine might have readily escaped, and been carried along by the current of blood into the arteries, blocking them up, after the manner described by Dr. Kirkes. That no return of sensibility or movement took place after the paralysis might, of course, be attributed to the circumstance, that no blood could pass to the brain through the right carotid, and thereby in part compensate for the cutting off the blood by the clot in the left carotid.

PARTIAL DISLOCATION OF THE LOWER JAW. BY W. OLIVER CHALK, ESQ.

The accident occurred in J. S., a female, aged 37. By the constant and long continued pressure of an enlarged tongue, the condyles of the maxilla inferior had been partially luxated from the glenoid cavities, so that this bone had been carried obliquely downwards and forwards, projecting nearly an inch beyond the superior, and forming a prominence beneath the chin. The tongue, which undergoes considerable variation in form and size, being at times so swollen as to protrude from the mouth, was, when measured, three inches in width by three-quarters of an inch in thickness; it was deeply indented by the teeth of the upper jaw. Mastication was exceedingly difficult, her speech was impaired, and she suffered from severe facial pains in the vicinity of the articulating surfaces of the jaw. The preceding case was interesting, inasmuch as it afforded an additional proof to that already given by Mr. C. Vasey of the effects of slow and continued pressure of the tongue on the lower jaw. The cases, however, differed, inasmuch as in the instance cited by that gentleman, the protrusion was caused by the cicatrix of a burn on the neck and chest, together with an altered condition of the alveolar processes; whilst in this it was the result of partial luxation without any alteration whatever in the osseous structure.

Editor's Letter Box.

SULPHUR USED EXTERNALLY IN RHEUMATISM.

Letter from Henry W. Fuller, M.D.

Sir,—In your last week's Journal is a letter from Dr. O'Connor, charging me with claiming originality in the practice of applying sulphur externally in rheumatism, and stating that I not only derived my knowledge of it from him, but had actually written to him so lately as March 1856, begging him to give me information on the subject.

The facts of the case are simply these. In the evening of February 25th, 1854, I chanced to meet Dr. O'Connor in the street close to my own residence. He told me that he was returning home from a meeting of the Medical Society of London, at which a paper on Sciatica had been read by Mr. Hancock. I therefore expressed regret at having been unable to attend the meeting, on the ground that I should have liked to submit to the Society the details of a method of treatment (viz., the external use of sulphur) which, to me at least, was new, and on which I was desirous of obtaining information. I then related how a patient, who was admitted under my care at St. George's Hospital in May 1853, had first directed my attention to the remedy, and how successful it had proved in my hands. In reply, he stated that the treatment was not new; that he had long since employed it in every form of rheumatism, and had that very evening described its virtues in his speech at the Medical Society of London; and that certain physicians at Edinburgh and Dublin had actually written and published on the subject.

So the matter rested until I was about to publish the second edition of my work on *Rheumatism, Rheumatic Gout, and Sciatica*, when, being anxious to consult the writings which Dr. O'Connor had referred to, with the view of obtaining additional authority for the practice, and recording all that was known on the subject, I addressed a polite note to him (the note alluded to in his letter), begging him to favour me with a reference to the works to which he had made allusion at our interview. That note—the only one I ever wrote to him—Dr. O'Connor had not the courtesy either to acknowledge or to answer; and now, by the publication of his letter, I am apprised, for the first time, of his having received it!

Having proved unsuccessful in my search for the writings, if any such exist, alluded to by Dr. O'Connor, and having failed

to obtain from him any reference to them, I found myself obliged to state, as I have done in the second edition of my work, p. 456, that "in no recognised treatise with which I am acquainted do I find the slightest notice of the curative action of sulphur applied externally in the way I recommend", and that "I am indebted to one of my hospital patients for directing my attention to the subject". But, so far from claiming any originality in the matter, I stated on the same page that, "in many parts of England, the sulphur ointment of the Pharmacopœia is a favourite remedy among the poor for the cure of rheumatism, whether affecting the joints or other parts of the body; and that brief notices of its virtues, when thus employed, are to be found sparsely scattered through our periodical literature."

But now, sir, that the question of originality has been raised, I will not hesitate to say that, had I claimed priority over Dr. O'Connor, the facts of the case would have fully justified my doing so. The first public notice of Dr. O'Connor's having employed sulphur externally in rheumatism is to be found in some observations he made during a discussion at the Medico-Chirurgical Society in February 1855, nearly two years after I had employed it publicly at St. George's Hospital, and just one year after I had explained to him the mode of applying it, and the excellent results I had obtained from it: and, though he claims to have made similar observations at the Medical Society of London in February 1854, after the reading of Mr. Hancock's paper on Sciatica, he does not even pretend to have mentioned it publicly, or to have spoken to me privately on the subject before that date. Therefore, as it is well known that I constantly employed it at St. George's Hospital in 1853, and my hospital case-books (see case-books for 1853, vols. vi and vii, *men*), which are open to inspection, bear witness to the same fact, it is obvious that, although Dr. O'Connor may have learned the practice from me, I cannot have been indebted to him for the suggestion. How, then, shall I characterise his assertions that, until that evening (*i.e.*, Feb. 25th, 1854), I was "entirely ignorant" of that plan of treatment, and to him alone am "indebted for any knowledge of it"?

In a matter of this kind, sir, originality appears to me to be of little importance. I have not laid claim to it in my work on *Rheumatism*, neither do I wish to do so now; nor to any merit beyond that of having placed before the profession the carefully digested records of three years observation on this plan of treatment. But I cannot imagine that any one will admit Dr. O'Connor's claim after perusal of the facts recorded in this communication, and of the statement contained in his own letter, that "two physicians, one of Edinburgh, and one of Dublin," had written many years ago on this very subject.

I will only add that, from the day on which I first became acquainted with this application of sulphur, I spoke of it to all the professional men whom I chanced to meet, pointing out the cases in which I had found it useful, and those in which it does not give relief; and the only reason why I did not publish it before I issued the second edition of my work on *Rheumatism* was, that I am always very careful not to advance anything which will not bear the test of experience; and that, until I sent my manuscript to the printers, I did not consider that I had had sufficient opportunities of observing its action to justify my expressing an opinion in its favour. I am, etc.,

Henry W. Fuller, M.D.Cantab., F.R.C.P.L.,
Physician to St. George's Hospital.

13, Manchester Square, April 13th, 1857.

THE OPHTHALMOSCOPE.

Letter from James Dixon, Esq.

Sir,—In a lecture by Mr. Coote, reported in the British Medical Journal for March 28th, there is a statement respecting the ophthalmoscope which requires to be corrected, especially as coming from a gentleman whose well-known literary attainments give weight to any assertion he may make regarding the history of surgical inventions. Mr. Coote says, "the merit of invention of this instrument, accorded by the French to a Greek physician, named Anagnostakis, and claimed by the Germans as their own, is in truth due to an Englishman, Mr. W. Cumming", &c; and he adds, "It is unnecessary to repeat how Helmhotz, E. Jäger, Coccius, Ruete, Gräfe, and Anagnostakis, with others, have worked with laudable perseverance, until the instrument now in use has been constructed."

Now, undoubtedly Mr. Cumming was the first to point out that the fundus of the healthy human eye is not a black, but a coloured, reflecting surface; and this most important discovery at once rendered worthless all that had been written by Beer and others about *Cat's-eye Amaurosis*, etc. This discovery led the way to Helmholtz's invention, but Mr. Cumming himself never constructed or suggested any form of ophthalmoscope. His simple mode of viewing the reflection from the fundus of the eye is detailed in the 29th Vol. of the *Medico-Chirurgical Transactions* (1846), and no attempt was made by him to obtain, by any optical contrivance, a view of the vessels and other details of the retinal surface. I can speak confidently on this point, inasmuch as Mr. Cumming's experiments were chiefly made upon patients of myself and of my colleagues at Moorfields. The tract published by Helmholtz in 1851 (*Beschreibung eines Augenspiegels zur Untersuchung der Netzhaut im lebenden Auge*) contains the earliest description of an ophthalmoscope. It was Coccius, I believe, who substituted for Helmholtz's superimposed layers of plain glass, a reflecting mirror with a small hole in the centre; and the various instruments alluded to by Mr. Coote, are but modifications of this perforated mirror, and are all based on the discovery of Helmholtz. I am, etc., James Dixon.

Portman Square, April 14th.

DISEASES OF SPECIAL OCCUPATIONS.

Letter from A. B. Steele, Esq.

Sir,—Your remarks upon Dr. Lewis's *Report on the Health of the London Postmen*, induce me to call attention to a system of lighting and ventilating rooms and buildings, which has been adopted by Mr. Edwards, of Liverpool. It has been in operation for some time in many of our local public buildings, and has proved most satisfactory in its results; and I conceive that it would be equally applicable to the London Post Office, and that, if adopted, it would effectually obviate the evils which result from all ordinary modes of gas illumination.

The plan having proved eminently successful in Liverpool, and being in my opinion valuable and important in a sanitary point of view to the public at large, I have deemed it advisable to request you to insert this communication in the Journal. The report of a paper, read by Mr. Edwards, on the apparatus, was published in the *Pharmaceutical Journal* for April 1854; and an abstract of the description may prove acceptable to those of your readers whose attention may not have been directed to the subject.

In the use of the ordinary burners, with the exception of Faraday's, the products of combustion are allowed to escape into, and mix with the atmosphere of the room; and as the first cost of Faraday's burner is high, the expense of keeping it in order great, the glasses frequently cracking, and the attention it requires more than most persons would be inclined to give, it is not likely to come into very general use. To obviate, therefore, all the objections to the usual gas burners, Mr. Edwards designed what he termed the "Sunburner arrangement". Its construction is very simple. Seven clusters, each of nine fish-tail burners, are supplied by gas through a pipe and branches. These burners are surrounded by a cone, to the top of which is attached a tube, passing through the ceiling to carry away the products of combustion. In this tube is placed a butterfly valve, for the purpose of regulating the current of air, so that the lights may burn perfectly horizontal. A strap of flat iron keeps the tube in the centre of the cone. These parts are all that are necessary for lighting, but round the exterior of the cone there are placed three sheet-iron cases, which, while they aid in ventilating, also prevent the heat from being transmitted from the cone to the woodwork of the building. These cylinders are not connected to each other, or to the cone, so that distinct currents of air pass between each two of them.

As a proof of the economy of the sunburner, the expense of lighting the Philharmonic Hall, in Liverpool, may be cited as an example. In the sunburner over the orchestra there are one hundred and seventy-one lights, and they burn at a cost of about 7½*d.* per hour; while round the cornice there are nine hundred and forty-two lights, which, if they consumed a proportionate quantity of gas to those in the sunburner, should cost 3*s.* 7*d.* per hour, but they actually cost 6*s.*, and are burning at a higher temperature too, and consequently consuming less gas than they would if placed in chandeliers, for when the temperature of the external air is 55°, the average temperature of the hall is 66°, and of the ceiling 124°.

The arrangement of the sunburner causes it to act remarkably well as a ventilator, the currents of air continually passing between the cone and the cylinders, drawing off the vitiated

atmosphere of the apartment, which is replaced by openings in the floor; and by having the air-flues beneath the floor of larger area than the total amount of the areas of their openings into the building, draughts are prevented and general diffusion attained. I am, etc.,

A. B. Steele.

Liverpool, April 6th, 1857.

ROYAL MEDICAL BENEVOLENT COLLEGE: PAYMENTS FOR EXHIBITIONERS.

Letter from William Cholmeley, M.D.

Sir,—In your report of the Extraordinary General Meeting of the Governors of the Royal Medical Benevolent College, held April 3, you have been led into the error of stating that all the three Resolutions advertised "were proposed by Mr. H. Bateman, and seconded by Dr. Ballard." In fact, only the first of the three resolutions was proposed to the meeting. Immediately after the amendment to this first resolution had been carried, and while I was vainly endeavouring, in the midst of much noise and confusion, to gain the Chairman's attention and to propose the second resolution, the meeting was hastily adjourned *sine die*. It is important to notice this; because when Dr. Ballard, in seconding the first resolution, was proceeding to adduce proofs that, even supposing the Council right in their interpretation of the Act of Parliament (which we entirely, and on counsel's advice, deny), still the charge to the exhibitioners need not be increased beyond £30 per annum, he was stopped by the Chairman, and not permitted to enter into the question of expenses, on the ground that that would be trenching on the subject of the second resolution, though nearly every one who spoke against the first resolution, or in support of the amendment, discussed, without restraint, the "justness" and "reasonableness", and even necessity, of the increased charge of £40 per annum.

It was doubtless owing to the fact that there was also some degree of confusion prevailing, when the amendment was put to the vote, that the Chairman could not hear the calls for the ballot. I am, etc. Wm. Cholmeley.

40, Russell Square, w.c., April 14, 1857.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

In these lists, an asterisk is prefixed to the names of Members of the Association.

BIRTHS.

Black. On April 12th, at 49, Queen Anne Street, the wife of Patrick Black, M.D., of a daughter.

*Hodges. On April 8th, at Rochford, Essex, the wife of Richard Hodges, M.D., of a son.

Mitchell. On April 9th, at Bath, the wife of James Johnston Mitchell, Esq., Surgeon, of a daughter.

*Robertson. On March 31st, at Nottingham, the wife of W. Tindal Robertson, M.D., of a son.

Shillitoe. On April 10th, at 34, Finsbury Circus, the wife of Buxton Shillitoe, Esq., Surgeon, of a son.

Waggett. On April 9th, at 4, Stanley Terrace, Kensington Park, the wife of John Waggett, M.D., of a daughter.

MARRIAGES.

Bradley—Chitty. Bradley, William Henry, Esq., Surgeon 2nd Regiment Cavalry Hyderabad Contingent, to Josephine, youngest daughter of the late Joseph Chitty, jun., Esq., of the Middle Temple, at St. Thomas's Cathedral, Bombay, on March 14th.

Colston—Armfield. Colston, Henry Samuel, Esq., Surgeon, of 31, St. Paul's Road, Camden Town, to Miss Armfield, of Grafton Street, Fitzroy Square, at St. Pancras Church, on April 11th.

Grant—Todd. Grant, James, Esq., Solicitor, of Symonds Inn, London, to Mary Anne, second daughter of John Todd, Esq., Surgeon, of Colinsburgh, Fife, at Colinsburgh, on April 8th.

DEATHS.

Burman. On April 13th, Mary Redin, wife of — Burman, Esq., Surgeon, of the Crescent, America Square.

Brown. On April 7th, at Warsash House, Hants, Charlotte Swinton, widow of Dr. Brown, late of the Medical Staff at Calcutta.

Heward. On April 11th, Elizabeth, wife of T. Spencer Heward, Esq., Surgeon, of 56, Grosvenor Street.

Skelton, J., M.D., Battalion Surgeon Coldstream Guards, at Abbey Road, St. John's Wood, on April 9th.

Symes. On February 7th, supposed by falling overboard from the *True Briton*, George, son of George Symes, M.D., Bridport, Dorset, aged 20.

*Wood. On April 11th, at 54, Upper Harley Street, Cavendish Square, Clara Ramsden, infant daughter of William Wood, M.D.

Yate. On April 6th, at Grappenhall, Cheshire, Cordelia, wife of James Yate, Esq., Surgeon.

PASS LISTS.

Royal College of Physicians. At the usual Quarterly Meeting, held on Monday, April 6th, after having passed the necessary examinations—

Dr. Fredk. Cock, Westbourne Park Terrace, was admitted member of the College.

At the same meeting, were elected Consiliarii—

Dr. Roots
Dr. Ferguson
Dr. Arthur Farre
Dr. Sir John Forbes
Dr. Cursham

Royal College of Surgeons. Members admitted at the meeting of the Court of Examiners on Friday, April 3rd, 1857:—

Blackmore, Humphrey Purnell, Salisbury
Carter, Alfred, St. Ann's Bay, Jamaica
Cockerton, Richard, Girton, Cambridgeshire
Foxwell, James John, Bristol
Harris, Lewis, Broadhempston, Totnes, Devon
Hawkins, Thomas, Spaldwick, Huntingdonshire
Kerman, George Davy, Liverpool
Litster, William, Bridgton, Glasgow
Neal, James, Birmingham
Peppin, Henry Cole, Martock, Somerset
Thomas, Hugh Owen, Seacombe, Cheshire
Thomas, John Little, Carmarthen
Wilson, John, Whitby, Yorkshire

At the same meeting of the Court—

Baird, William James, of H.M.S. *Wellesley*, passed his examination for Naval Surgeon. This gentleman had previously been admitted a member of the Edinburgh College of Surgeons: his diploma bearing date April 10th, 1852.

Monday, April 6th:—

Barrette, Whatly, Bath
Bate, George, jun., Plymouth
Cockcroft, George Edmondsaco, Middleham, Yorkshire
Edwards, Thomas Edwin, St. Mary's Hospital, Paddington
Evans, Henry, Blaenant, Cardiganshire
Farr, George Evan, Woolwich
Fisher, Joseph, Manchester
Garlick, William, Park Square, Leeds
Michael, David, Swansea, South Wales
Pauli, Theophilus Isaac William, Oxford
Payne, George Brown, Knutsford, Cheshire
Pope, Joseph John, Mornington Crescent, Hampstead Road
Ruttledge, Thomas Edward, London Hospital
Saunders, Richard Westrap, Pisa, Tuscany
Stevenson, Nathaniel, Cleveland Square, Bayswater

Monday, April 13th:—

Alcock, John, Cobridge, Staffordshire
Bannister, Alfred James, Trafalgar Square, Chelsea
Barford, James Gale, Wokingham, Berkshire
Brock, Edward, Canterbury
Chappell, John James, Axmouth, Devon
Hodges, William, Brecon, S. Wales
Marriott, Charles William, Leamington, Warwickshire
Ramsbotham, Walter Basnett, Amwell Street, Claremont Square
Renlzsch, George Henry, Haverstock Hill, Hampstead
Richardson, Francis Hunt, Highgate

New Fellows. The following members of the College were admitted to the Fellowship, at a meeting of the Council, on the 8th instant:—

Anderton, Henry, Much Woolton

BERNARD, Ralph Montague, Clifton
BESEMERES, William, Old Kent Road
BROWN, Robert, Brixton Hill
BYERLY, Isaac, Seacomb, Cheshire
CLIFTON, Nathaniel Henry, Islington
CROFT, Charles Ilderton, Laurence Pountney Hill
ELLIOTT, Robert, Chichester
EVANS, Richard David Jones, Hertford
EWEN, Henry, Long Sutton
FAWSSETT, Frederick, Wisbeach
FENTON, John, Liverpool
HARRINSON, Isaac, Reading
HILLS, George, Keighley
IBBETSON, George Augustus, Brook Street
KINGSFORD, Edward, Sunbury
LISTER, John, Doncaster
MINTER, John Moolenburgh, M.H.S. *Victoria and Albert*
NICHOLSON, John Frederick, Stratford Green
NOURSE, William Edward Charles, West Cowes
ROBERTS, Watkin William, Carnarvon
SCOTT, Edward John, Southsea
STROTHER, Arthur, Darlington

At the same meeting of the Council—

DREVER, John, Birmingham
MACMEIKAN, John, Stratford

Were admitted *ad eundem* members of the College.

LICENTIATES IN MIDWIFERY admitted at a meeting of the Board, on April 15th:—

BAKER, William Langworthy, Newton Abbot, Devon: diploma of membership dated March 30th, 1857
BLACKALL, John George, Hoxton: March 27th, 1857
DAVY, Francis Jeafford, Knighton, Devon: March 13, 1857
DENNE, Thomas, Sittingbourne, Kent: Feb. 20th, 1857
EVANS, Abel, Llantyssil, Cardiganshire: March 25th,
GIRDLESTONE, William Theophilus, Wordsley, Staffordshire: December 15th, 1856
HAMILTON, William, Tallout, Ireland: December 22nd, 1854
HETHERINGTON, Joseph, Lamplugh Hall, Cumberland: March 30th, 1857
JOHNSON, Osborne, Bassingham, Newark, Nottinghamshire: June 23rd, 1851
JONES, William Padmore, Marlborough Place, Old Kent Road: March 6th, 1857
KNAGGS, Henry, Huddersfield: March 27th, 1857
MUDD, William, Hadleigh, Suffolk: Oct. 24th, 1856
NOBLE, William, Linton, Herefordshire: July 29th, 1853
THOMAS, John, Cardigan: March 25th, 1857

HEALTH OF LONDON:—WEEK ENDING APRIL 11TH, 1857.

[*From the Registrar-General's Report.*]

THE deaths registered in London, which in the previous week were 1235, in the week that ended on Saturday, declined to 1059. In the ten years 1847-56, the average number of deaths in the weeks corresponding with last week was 1104. But as the deaths of last week occurred in an increased population, the average should be raised for the purpose of comparison in proportion to the increase, in which case it becomes 1214. Hence it appears that the deaths now returned were less by 155 than the number which the average rate of mortality would have produced.

The deaths last week referred to diseases of the zymotic class were 181, whilst the corrected average of corresponding weeks is 246. Typhus and common fever were fatal in 50 cases (20 of which occurred in the north district); the average is 48. Fifty children died of hooping-cough; the number, according to the average rate of mortality, would have been 63. Twenty-three children died of scarlatina, the average being 36. Measles was fatal in 17 cases, the average being 25; small-pox in 3 cases, the average being 14; and diarrhœa in 10 cases, the average being 16. No deaths from small-pox occurred in the east, south, or west districts, and none from measles in the west districts, a portion of the metropolis which was remarkably exempt from fatal cases of the zymotic diseases. Three children died at 17, New End, Hampstead, on the 2nd, 3rd, and 6th instant respectively, of fever; they appear to have taken fever in Hampstead, to which they had been brought for change of air when recovering from hooping-cough. Bronchitis carried off 113 persons, and pneumonia 81; both numbers being near their respective averages. Four persons died of intemperance; two of delirium tremens; and two of carbuncle. Two women died at the age of 94 years; and one in Lewisham Workhouse at the age of 96 years.

Last week the births of 835 boys and 773 girls, in all 1608 children, were registered in London. In the ten corresponding weeks of the years 1847-56 the average number was 1511.

At the Royal Observatory, Greenwich, the mean height of the barometer in the week was 29·519 in. The instrument ranged from 29·27 in. to 29·82 in. The mean temperature of the week was 49·9°, which is 4·6° above the average of the same week in 43 years. The mean daily temperature was above the average on every day except Saturday; on Sunday and Monday, the excess was 10° and 8°. The highest temperature occurred on Sunday, the 5th, and was 65°; the lowest on Friday, and was 37·3°. The range of temperature in the week was 27·7°. The mean dew-point temperature was 45·0°, and the difference between this and the mean air temperature was 4·9°. The wind which had alternated between south-east and south-west during the week, changed to north-west on Saturday. Rain fell on every day except Wednesday, and the whole amount of the week was 0·53 in. Thunder was heard on Tuesday and Friday.

LICENSES TO DRINK. The latest is a Bill before the Albany Legislature establishing a system of licenses for the consumer, instead of the seller; people are to take out a license to drink, like a license to kill game, or a permission to carry arms. There is a nicely graduated scale of fees for liberty to imbibe the various kinds of fluids:—2*s*. a-year make a man free of small beer and "currant wine", or wines of "domestic manufacture": the courage that can venture on the last named liquids deserves to be let off cheaply. Strong beer, porter, and ale, require a payment of 3*s*. Whisky and spirits of home distillation are allowed for one dollar annually; brandy and foreign spirits are accessible by a fee of one dollar and a half. The sliding scale stops there. The next fee is high and inclusive: five dollars annually purchases a license to drink beer, spirits, and wine, or anything, from *aquafortis* to champagne. The payment of five dollars elevates the payer above all restrictions on his beverage. Aldermen and justices of the peace are the granters of the licenses; and no person can sell or even give anything in the shape of drink, unless the applicant produces his license to swallow it; and then only the special kinds specified in the document, such sale or gift to the unlicensed being a misdemeanour. No license whatever, not even for currant wine, is to be granted to a married woman without the previous written consent of her husband. Such is the last legislative absurdity, based on that fruitful source of it, good intentions, when divorced from common sense. While the State Legislature of New York is pestered with such ridiculous schemes, the Federal Legislature at Washington, by the new tariff, has just reduced the duties on foreign spirits from 100 per cent. to 30 per cent., the only effect of the higher duty having been to encourage adulteration.

WARNING TO PHOTOGRAPHIC ARTISTS. Our photographic friends will do well to take warning from the following extract, taken from a Cape paper, in which it is stated that Dr. Atherstone, an eminent photographer, had nearly poisoned himself:—"It appears that in removing the stains of nitrate of silver from his hands with that deadly poison cyanide of potassium (the plan commonly adopted by photographers), he suddenly felt a glow through his whole frame, accompanied by a tremulous feeling. The thought flashed across his mind that some of the poison had been absorbed by some scratches or cuts on his hands which he had forgotten. He washed his hands instantly, taking ammonia and wine. But the symptoms increased, his sight grew indistinct, his memory was impaired, and a sense of fainting warned him that a poisonous dose had been absorbed. He then tried cold affusion, with temporary relief; and a powerful shower-bath gave great relief for a time, but the symptoms returned at intervals of a few minutes; the jaws felt constricted, and there was a spasmodic action of the muscles of the arms, parched throat, and sense of faintness. In three hours these symptoms left, and he fell asleep. The next day he suffered from great exhaustion. This case shows the necessity of extreme caution on the part of photographers and others in the use of this highly poisonous salt. The following will be found a safe and equally efficacious mode of removing the stains of nitrate of silver from the hands:—Moisten the stain with a saturated solution of iodide of potassium in water, and afterwards with nitric acid, diluted with two parts of water, then wash in a solution of hyposulphite of soda."—(*Madras Spectator*, Feb. 2, and *Times*, April 6.)